Medical Lib. NOV 5 1926

Medical Times

A Monthly Journal of Medicine, Surgery and the Collateral Sciences

Published by THE MEDICAL TIMES COMPANY at 95 Nassau Street

55 Years of Faithful Service to the Medical Profession

Vol. LIV, No. 11 **New York, November, 1926** **Twenty-Five Cents a Copy Two Dollars a Year**

CONTENTS

The First Unit Commander's Class of Medical Reserve Officers at Carlisle Barracks, Pa..... 265

The Glands of Internal Secretion... 271
H. Lyons Hunt, M.D., New York.

Complications Incident to the Operative Treatment of Inflammatory Diseases of the Gall-Bladder..... 275
Aimé Paul Heineck, M.D., Chicago, Ill.

A Plan of Feeding Typhoid Fever.. 279
Edward E. Cornwall, M.D., Brooklyn, N. Y.

Strongyloides Stercoralis 281
William C. Allison, M.B., White Fish, Mont.

RESULTS OF THE MOHONK CANCER SYMPOSIUM 284

EDITORIAL

Colloidal Lead and Cancer..... 285

"Boosting the Doctor"..... 285

Freedom and Morals..... 285

Sickness and Public Affairs..... 286

A Sleepless Society..... 286

Food Handler Examinations..... 286

MISCELLANY

The Ex-Baby 287

Not the Cradle of Volsteadism..... 287

DR. HAROLD HAYS OPENS $750,000 HOSPITAL 287

Established 1872 *Entered at the New York Post Office as Second Class Matter*

The Mineral Elements of the Sea

SEISAL

A dry, granular substance designed to be used at the table as a food accessory, condiment.

Seisal has about 70 percent sodium chloride, with potassium, calcium, sodium, magnesium, iron, iodin, manganese, chlorin, sulphur, lithium, bromin, and silica.

A single gram of Seisal amounts to about 1/10 of a milligram of iodine, one-half the proportion of iodine in "iodized salt."

Seisal is not suggested for use in the kitchen.

Specimen and literature on request.

FAIRCHILD BROS. & FOSTER
NEW YORK

COMPOUND SYRUP OF HYPOPHOSPHITES

1866—"FELLOWS"—1926

Not a new-born prodigy or an untried experiment, but a remedy whose usefulness has been fully demonstrated for more than half a century of clinical application.

The Standard Tonic for 60 Years

℞ Syr. Hypophos. Comp. "FELLOWS"

Reject Cheap and Inefficient Substitutes Preparations "Just as Good"

Fellows Medical Manufacturing Co., Inc., 26 Christopher Street, New York, N. Y.

Prescribe Cream of Nujol

For Patients With an Aversion to Plain Liquid Petrolatum

In the various types of constipation, particularly chronic constipation, no agent has proven more reliable than liquid petrolatum. Natural, mild, non-irritating, non-habit-forming—it has gained universal acceptance.

But some patients, particularly children and invalids, have an aversion to the taste of *plain* liquid petrolatum. They will find a pleasant alternative if you prescribe Cream of Nujol—Nujol emulsified with agar. Its creamy smoothness and palatability are accompanied by no loss of therapeutic efficiency.

Unlike other leading emulsions analyzed by the Chemical Laboratory of the American Medical Associatiom, Cream of Nujol contains no benzoate of soda or other artificial preservative. Moreover, this new product contains no sugar and may therefore be taken safely by obese or diabetic patients.

Cream of Nujol may be prescribed wherever Nujol is indicated.

For all types of constipation

NUJOL LABORATORIES, 26 BROADWAY, NEW YORK

"HEALTHS" *and* DISEASES

By C. H. Woodward

It is just as sensible to speak of *healths* as it is to speak of *diseases.*

There are various manifestations of health, just as there are various manifestations of disease.

The great confusion that exists today with reference to disease is directly due to *pluralizing* the word.

Health is normal function, or an accepted state of normality.

Disease is abnormal function, or a departure from an accepted state of normal function.

It is unimportant as to what organ of the body or part of it in which this manifestation of changed or altered function appears, or the descriptive name of its appearance, or effect or development.

When we speak of *diseases* we get lost—lose our bearings, go astray in our understanding and reasoning.

The physician deals with altered function—abnormal function—*only.*

He is interested first, in what *caused the function to alter,* and second how to restore it to normal.

Whatever else he does to aid his patient he *must inevitably recognize* that if the condition is not the result of external violence or interference, *it must be due* either to the air his patient has been breathing, the water he has been drinking, or the food he has been eating.

His first work is to meet the emergency that exists, and his second step is to control the air, the water and the food intake.

Unless the doctor recognizes that his patient breathes for the purpose of oxidizing the food materials eaten, he will allow that patient to eat oxidized food. He must also know that the patient can no more oxidize substances that have been once oxidized than a furnace can be kept hot by feeding the fire with ashes.

Oxidized food is ashes. Oxidized coal is ashes. Oxidation is the process of life. Its effect is energy and heat. The law of life is replenishment—replacement—a putting back of the material life-elements in kind that have been used or transformed in carrying on the life-processes.

Whole Grain Wheat is the first natural food that has been cooked without oxidation, and the Thumbprint Products of which there are nine including **Whole Grain Rice, Whole Ripe Peas, Whole Navy Beans, Whole Red Kidney Beans, Whole Lentils, Whole Lima Beans, Liquid Life, Whole Ripe Prunes, Whole Black Figs, and Nutty-Fruit (honey) Bread,** are the first natural whole substances singly or combined which have been cooked ready to serve without oxidation, representing a new principle of food preparation, originated and developed by the Whole Grain Wheat Company, of Chicago, Illinois.

As a demonstration of the effect of eating food for replenishment—eating food that has not been oxidized in cooking, put any patient able to take any sort of replenishment, on Whole Grain Wheat, either just as it comes from the seal container, or after it has been passed through a food chopper and liquified with the liquid of **Liquid Life** (if the patient can take only liquid food) and carry it on for ten days or two weeks and note the result.

Take this liquified form for your patients with stomach ulcer and find a new means ready at hand for your service and the service of your patients whereby they may be enabled thereafter to recommend you as a doctor who finds a way for such patients to return to normal without operation.

Do the same thing with your tuberculosis cases, or your cancer cases, or your rheumatism or neuritis, or constipation, or colitis, or asthma, or palsy, or high blood pressure, or any of them, whatever the descriptive name (they all have to eat regardless of whether you treat them or not) instead of feeding them oxidized substances which makes their breathing *largely in vain.*

This of course is merely a hint. Feed them often, and only a little at a time. Eight tablespoonsful of natural food fed at intervals of thirty minutes or one hour is far better than the same amount of substance fed at one or even three times. Why? Because food to be effective must be transformed by the body fluids and made soluble so that it may be oxidized, and the depleted potency of the body fluids in diseased patients is often and generally most pronounced. Put a teaspoonful of soda in a barrel or vinegar and there will not be much transformation, but put a teaspoonful in a glassful of vinegar and there will be a lot of turmoil —a marked transformation.

Write for the book of life and tell us about your feeding troubles, because you have them in every case you get—at your own table, too.

Whole Grain Wheat and other Natural Thumbprint Products are never sold through grocery stores, but only by authorized distributors, and come in packages of one dozen 11-oz. tins $2.00 or four dozen $7.60 Denver and east; $2.25 per dozen or 4 dozen $8.30 west of Denver. Look in your telephone directory for Whole Grain Wheat Distributor, or send direct to the Whole Grain Wheat Company, 1833 Sunnyside Ave., Chicago; Chicago readers telephone Ravenswood 4101; Canadian address 26 Wellington St. E., Toronto; Toronto readers telephone orders Main 4489; New York readers telephone orders Bowling Green 3250.

Thirty Years Is a Long Test

For Thirty Years

ALKALOL

has been employed in treating eye, ear, nose and throat.

We are always pleased to furnish sample to the profession.

The Alkalol Company

Laboratory at Taunton, Mass.

Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

Vol. LIV, No. 11 | NEW YORK, NOVEMBER, 1926 | Twenty-Five Cents a Copy Two Dollars a Year

Board of Contributing Editors

WM. G. ANDERSON, M.Sc., M.D., DR.P.H....New Haven, Conn.
JOHN W. BOWLER, A.M., M.D.....Hanover, N. H.
HENRY CLARK COE, M.D., F.A.C.S.....New York
EDWARD E. CORNWALL, M.D., F.A.C.P.....Brooklyn, N. Y.
LIEUT. JOHN DUFF, JR., Medical Corps.....United States Navy
KENNON DUNHAM, M.D.....Cincinnati, O.
W. L. ESTES, M.D.....South Bethlehem, Pa.
HAROLD HAYS, A.M., M.D., F.A.C.S.....New York
WALTER J. HIGHMAN, M.D.....New York
HOWARD LILIENTHAL, M.D., F.A.C.S.....New York
EDWARD H. MARSH, M.D., DR.P.H.....Brooklyn, N. Y.
ROBERT T. MORRIS, A.M., M.D., F.A.C.S.....New York
HENRY T. MORTON, M.D., F.A.C.S.....Brooklyn, N. Y.
GEORGE THOMAS PALMER, M.D.....Springfield, Ill.
VICTOR C. PEDERSEN, M.D., F.A.C.S.....New York
JOHN O. POLAK, M.Sc., M.D., F.A.C.S.....Brooklyn, N. Y.
JOHN PUNTON, A.M., M.D.....Kansas City, Mo.
DUNBAR ROY, M.D.....Atlanta, Ga.
ALBERT H. SHARPE, M.D.....Ithaca, N. Y.
JOHN W. SHUMAN, M.D., F.A.C.P.....Los Angeles, Calif.
JOHN P. SPRAGUE, M.D.....Chicago, Ill.
ALMUTH C. VANDIVER, B.S., LL.B.....New York
REYNOLD WEBB WILCOX, M.D., LL.D., D.C.L.....New York

The First Unit Commanders Class of Medical Reserve Officers at Carlisle Barracks, Pa.*

Surgeon General M. W. Ireland, U. S. Army, inaugurated a movement of far reaching importance when he authorized the organization of the first school for a command and executive group, Medical Reserve Corps, United States Army. This was held at the Medical Field Service School, Carlisle, Pa., Sept. 12-26, under the direction of the commandant, Lt. Col. C. R. Reynolds, M. C., U. S. A.

The unit commanders class, composed entirely of medical reserve officers, all of whom had seen service in the World War, included 29 colonels, 39 lieutenant colonels, 14 majors and two captains, one of the latter being from the Medical Administrative Corps Reserve.

No more delightful spot will have been chosen for such a school of instruction.

This post, long historic in army annals, was occupied for nearly 30 years as a training school for our native sons, the Indians.

Warner Field upon which the physician soldiers drilled, was made famous by Jim Thorpe, one of the greatest of America's all round athletes and it was at this Carlisle Indian School that Glenn Warner turned out football teams which tested the playing ability of our greatest college football teams.

In 1918 the school gave way to an Army General Hospital. The present school, intended for the field training of regular and reserve medical officers, succeeded the hospital in 1921 and it has already become the West Point of the Medical Department.

Medical reserve officers have for several years past taken courses at this school, but the establishment of training for the command and executive group in the reserve marks the beginning of a new era in the proper preparation of the civilian physician for the duties of the war-time medical officer.

The course proved so highly beneficial to the 84 student officers that they hope the surgeon general will decide to make such training an integral part of the medical reserve officer's military work.

When Col. Reynolds made his introductory address to the first class on Sept. 13 he spoke to men who came from all parts of the country—Maine to Kansas and South Dakota to Louisiana.

Those responding to the roll call, representing 28 States and the District of Columbia, were:

BRIG. GENERALS—Charles H. Mayo, Rochester, Minn.

COLONELS—H. Sheridan Baketel, 155 VanWagenen Ave., Jersey City, N. J.; Carl L. Barnes, 4611 Broadway, Chicago, Ill.; Gustavus M. Blech, 108 N. State St., Chicago, Ill.; Thomas J. Burrage, 139 Park St., Portland, Me.; Thomas D. Coleman, 936 Hickman Road, Augusta, Ga.; Gilbert G. Cottam, 800 Sioux Falls Nat. Bank, Sioux Falls, S. D.; John C. Darby, 9400 Euclid Ave., Cleveland, O.; Frank Deacon, 811 E. 49th St., Chicago, Ill.; Curran B. Earle, 418 E. North St., Greenville, S. C.; James B. Guthrie, 1206 Madison Blanche, New Orleans, La.; Robert B. Harkness, 240 College Ave., Houghton, Mich.; Joseph M. Heller, 1746 K St., N. W, Washington, D. C.; Ralph Kaysen, 410 Jefferson St., Milwaukee, Wis.; Kerwin W. Kinnard, 402 Bryant Bldg., Kansas City, Mo.; Leon Matassarin, 815 S. Main St., Wichita, Kans.; John A. Murphy, 313 Dickinson Ave., Swarthmore, Pa.; Charles A. Neal, 4427 Floral Ave., Norwood, O.; Clifford C. Nesselrode, 704 Commercial Bldg., Kansas City, Mo.; William K. Nisbit, Earlington, Ky.; Edward W. Pinkham, 40 E. 41st St., New York, N. Y.; John W. H. Pollard, 1802 Maple Ave., Evanston, Ill.; Grover C. Penberthy, 1563 David Whitney Bldg., Detroit, Mich.; William B. Reid, 211 W. Embargo St., Rome, N. Y.; William H. Robey. 202 Commonwealth Ave., Boston, Mass.; David D. Scannell, 489 Walnut Ave., Jamaica Plain, Mass.; Joseph G. Sherrill, 328 Francis Bldg., Louisville, Ky.; Arthur F. Stotts, Bank of Galesburg, Galesburg, Ill.; John M. Swan, 457 Park Ave., Rochester, N. Y.; Martin J. Synnott, 63 S. Fullerton Ave., Montclair, N. J.

* Carlisle Barracks was established as an Army Post in 1776 during the Revolution and continued as such until 1879, when it was turned over to the Department of the Interior for an Indian School. During the fighting around Gettysburg the post was occupied by the Confederate General Ewell. Carlisle itself was bombarded and visitors are shown where Southern shells hit some of the city's houses.

Lt. Colonels—Walter G. Bain, 7th & Mason Sts, Springfield, Ill.; Robert D. Brown, 1102 N. Charles St., Baltimore, Md.; Byron S. Bruce, Opelika, Ala.; Dirk Bruins, 272 35th St., Milwaukee, Wis.; Lee E. Casey, Minerva, O.; Miles D. Chisholm, 9 Conner Ave., Westfield, Mass.; Wm. A. N. Dorland, 25 E. Washington, St., Chicago, Ill.; John E. Dougherty, Jewish Hospital, Brooklyn, N. Y.; Clarence J. Combs, 502 Washington Blvd., Oshkosh, Wis.; Adam T. Finch, Chase City, Va.; Gilbert Fitzpatrick, 122 S. Michigan Ave., Chicago, Ill.; Herbert H. Forcheimer, 609 Van Antwerp Bldg., Mobile, Ala.; Leonard D. Frescoln, 411 S. 44th St., Philadelphia, Pa.; Lucius B. Goodyear, 827 Door St., Toledo, O.; Charles F. Gormly, 221 Thayer St., Providence, R. I.; John F. Hackett, 111 W. Main St., Waterbury, Conn.; Joseph F. Hawkins, 197 Waterman St., Providence, R. I.; Llewellyn E. Hetrick, 20 E. 53d St., New York, N. Y.; Charles H. Holt, 48 Grove St., Pawtucket, R. I.; Luther P. Howell, 328 E. State St., Columbus, O.; George A. Kelso, 4925 Milwaukee Ave., Chicago, Ill.; William J. Lancaster, 211 Citizens Bank Bldg., Tampa, Fla.; Gaspere E. Lentine, 31 Waldeck St., Dorchester, Mass.; Joseph A. Link, 1237 N. Limestone St., Springfield, O.; James H. Means, 15 Chestnut St., Boston, Mass.; Emery B. Neff, 229 E. Lincoln Highway, DeKalb, Ill.; Frederick A. Rupp, 23 N. Brown St., Lewistown, Pa.; John H. Schroeder, 11½ E. 8th St., Cincinnati, O.; Hermann V. W. Schulte, 306 N. 14th St., Omaha, Neb.; John N. Sherman, Lapham Bldg., Chanute, Kans.; George C. Shockley, 128 Broadway, Melrose Park, Ill.; Harold A. Spilman, Hoffman Bldg., Ottumwa, Iowa; Arthur C. Stokes, 4724 Davenport St., Omaha, Neb.; David C. Straus, 1212-310 S. Michigan Ave., Chicago, Ill.; Perry C. Travers, 1010 Riverside Drive, South Bend, Ind.; Horace Van de Voort, Woodward, Ala.; Harry C. Westervelt, Passavant Hospital, Pittsburgh, Pa.; George C. Wilkins, 814 Elm St., Manchester, N. H.; Hugh Wilkinson, 430 Brotherhood Bldg., Kansas City, Kans.

Majors—Hollis G. Batchelder, 30 Court St., Dedham, Mass.; Carl Boettiger, 220 DeKoven St., Forest Hills, L. I.; Jacob B. Falk, 34114 Burnett Ave., Cincinnati, O.; Louis B. Hayden, 79 Court St., Plymouth, Mass.; Charles L. M. Judkins, 7 Mason St., Lynn, Mass.; H. H. M. McCampbell, 614 Walnut St., Knoxville, Tenn.; William D. McFee, 53 White St., Haverhill, Mass.; George A. MacIver, Mass. General Hosp., Boston, Mass.; Edward F. Murray, 57 Pearl St., Burlington, Vt.; Clark E. Orders, 3934 Central Ave., Indianapolis, Ind.; Roscoe H. Philbrick, E. Northfield, Mass.; Walter M. Stout, 1319 Church St., New Castle, Ind.; Oliver L. Stringfield. 833 Hope St., Springdale, Conn.; John H. Wyman, 3 Sanford St., Medway, Mass.

Captains—Charles H. Dabbs, 1268 Blvd., New Haven. Conn.; Edmund J. O'Shaughnessy, 29 Cherry St., New Canaan, Conn.

These officers found in barracks at Carlisle 22 medical reserve officers and 7 medical officers of the National Guard, representing a widespread area, taking a six weeks basic course which covered every phase of the field service of the medical department.

The daily routine of the student officers began with reveille at 6 A. M., followed by calisthenics, under Capt. F. A. Blesse, M.C., at 6:45 o'clock. Breakfast was at 7 o'clock. Drill, including school of the soldier, was the order between 8 and 9 o'clock, under Capt. Blesse and Capt. J. A. Rogers, M.C.

The corpulent colonels were put through marching drill that brought many a sweat gland into most active service and no company of rookies were even "put over the jumps" more vigorously or beneficially.

Lectures and demonstrations were the program between 9:15 and 12 and 1:15 and 2:30 o'clock with an hour for dinner.

The subjects of the daily lectures and demonstrations follow:

September 13—
Opening Talk by the Commandant.
Moving Picture Demonstration—Military Courtesies.—Capt. F. A. Blesse.
Demonstration of Outdoor Courtesies.—Capt. Blesse.

September 14—
Lecture—Organization and Administration of the Officers Reserve Corps.—Maj. G. I. Jones.
Lecture—Industrial Mobilization and Procurement Planning. Maj. Larry B. McAfee.
Lecture—The General Organization of the Military Establishment.—Maj. R. C. McDonald.

September 15—
Lecture—The Tactical Organization of the United States Army.—Maj. McDonald.
Lecture—The General Mobilization Policy.—Maj. M. Ashford.
Lecture—The Organization of the Medical Department.—Maj. McDonald.

September 16—
Lecture—The Medical Service of an Infantry Regiment.—Maj. McDonald.

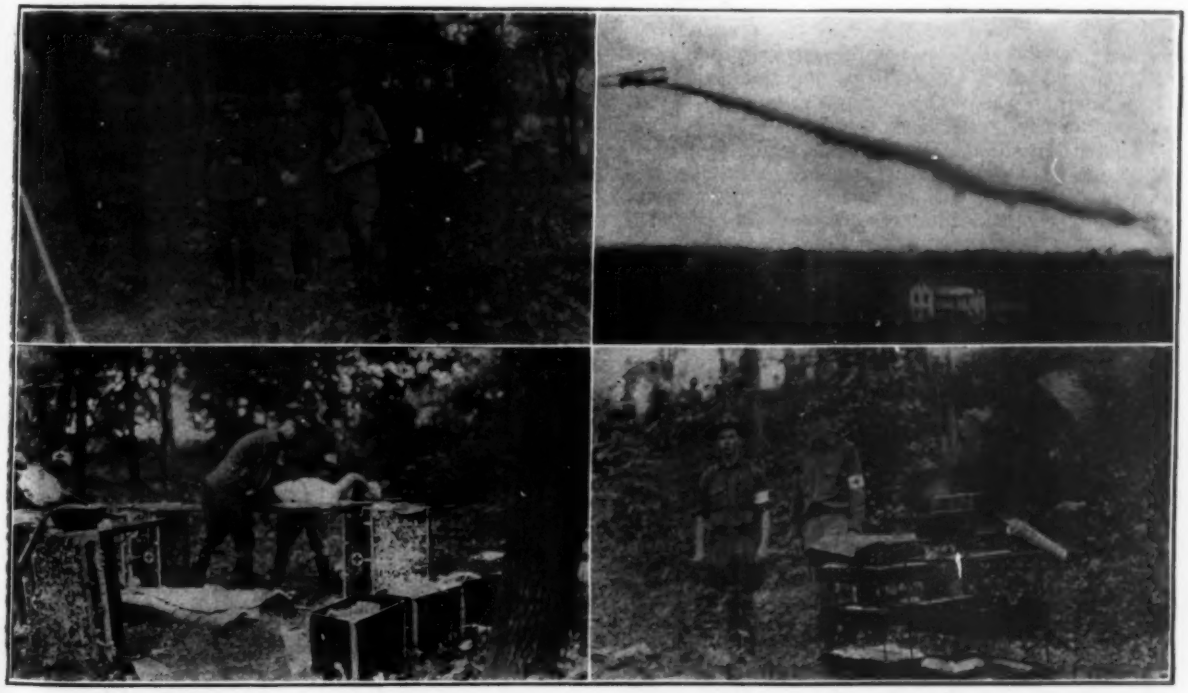
Lecture—Unit Mobilization Plans.—Maj. G. L. McKinney.
Lecture and Moving Pictures—The Medical Aspects of Chemical Warfare.—Lt. Col. Harry L. Gilchrist.
September 17—
Lecture—The Preparation of Training Orders, Programs and Schedules.—Maj. McKinney.
Lecture—The Medical Service of an Infantry Division.—Maj. McDonald.
Field Exercise—Medical Service of an Infantry Battalion in Attack.
Auditorium—Lecture—Developmental Anomalies.—Brig. Gen. Chas. H. Mayo.
September 18—
Demonstration—The Individual Equipment of Soldiers; Issuing and Recording.—Capt. Blesse.
Lecture—Medical Participation in War Plans.—Maj. Arnold Tuttle.
Demonstration—The Individual Equipment and the Battalion Dispensary Designed at the Medical Department Equipment Laboratory.—Maj. John P. Fletcher.
September 20—
Lecture—The General Organization and Administration of Army Hospitals.—Maj. William H. Richardson.
Moving Picture Demonstration—Physical Training.—Capt. Blesse.
Lecture—The General System of Hospitalization.—Maj. W. E. McCormack.
September 21—
Lecture—Organization and Administration of Surgical and Evacuation Hospitals.—Maj. McCormack.
Lecture—Methods of Obtaining Equipment and Supplies for Army Hospitals.—Maj. Fletcher.
Demonstration—The Hospital Tent, Hospital Lighting Unit, Hospital Stove, Wheel Litter Carrier, and Six-Patient Ambulance designed at the Medical Field Service School.—Maj. Fletcher.
September 22—
Lecture—The System of Evacuation of a Field Force.—Lt. Col. Reynolds.
Lecture—The Duties of Medical Inspectors to include the Sanitary and Sanitary Survey.—Maj. G. C. Dunham.
Demonstration—Water Purification and the Sanitary Devices used by the Medical Department in the Field.—Maj. Dunham.
September 23—
Critique on Mobilization Plans.—Maj. Mc Kinney.
Demonstration—Mess Management—Ration Allowances.—Maj. J. M. Willis and Lt. J. C. Schwieger
Lecture—Organization and Administration of General Hospitals.—Maj. Richardson.
Map Demonstration of Field Exercise on the Medical Service of an Infantry Division in attack.—Maj. McDonald.
September 24—
Field Exercise—The Medical Service of an Infantry Division in Attack.
Lecture—Organization and Administration of General Hospitals.—Maj. Richardson.
Lecture—Staff Relationship to include Relationship of the Medical Department to the General Staff and to the Technical Supply and Administration Staff.—Maj. McDonald.
September 25—
Lecture—The Citizens' Military Training Camps, The Reserve Officers' Training Corps, and Army Correspondence Courses.—Capt. G. B. Denit.
Final Address by the Commandant.—Lt. Col. Reynolds.

One problem, on the preparation of plans for the mobilization of an evacuation hospital, was given by Maj. McKinney, M.C. The grey matter of the student officers was agitated as it had not been since medical school days. Most of Saturday and Sunday afternoons and evenings were given over to the study of the problem. Major McKinney has recommended very few students for congressional medals, but all the men worked earnestly and gained much valuable information as to unit mobilization.

Sunday morning was spent on the battlefield of Gettysburg. Maj. McDonald, M. C., a recent graduate of the service school at Fort Leavenworth, who had given much study to the tactics of the battle, conducted the officers to various parts of the battlefield and explained in detail the technical part of the three days' fighting.

The evenings were largely given over to recreation at the Barracks and in Carlisle by the Unit Commander's class.

One evening Gen. Charles H. Mayo spoke. He was entertained at dinner by Col. Reynolds, who asked a few of the reserve officers to meet the eminent Rochester surgeon.



Courtesy of Lt. Col. G. E. Lenting.

1.—Left to right.—Brig. Gen. Charles H. Mayo, Med. Res.; Col. Carl R. Darnall, M. C. and Lt. Col. Charles R. Reynolds, M. C. 2.—Martin Bomber laying smoke screen at Carlisle maneuvers. 3.—First aid in field aid station. 4.—Capt. J. A. Rogers, M. C. and one section of field aid station.

Unit Commander's Class at Bloody Angle, Gettysburg, Sept. 19, 1926.

The ladies of the post entertaianed the ladies of the student officers on an afternoon. Mrs. Reynolds poured. At 5 o'clock the reserve officers were received by Col. and Mrs. Reynolds at Red Cross house. Tea and dancing followed.

A realistic touch was given to the course by an afternoon devoted to mimic warfare.

The account of the problem and the medical detachment's work therewith is herewith presented as written by Capt. F. A. Blesse, M.C.:

A demonstration of the medical service of an infantry battalion in attack was held on September 17, for the field officers class and the unit commanders class of National Guard and Reserve medical officers.

A general situation was described prior to the demonstration in which the 1st Infantry Regiment of the 1st Blue Division was to attack the left flank of the Red Division, which was intrenched on high ground north of Carlisle to the Condoguinet Creek, which is not fordable. The 1st Battalion of this regiment, and the Medical Section attached thereto, was represented by the personnel of the 1st Medical Regiment.

The 1st Battalion was seen leaving the line of departure at 1:30 p. m. with Company A on the right, Company B on the left, and Company C in reserve. Company D, the Machine Gun Company, supported the attack by heavy machine gun fire from the flanks.

During the advance Company B was held up by heavy fire from the enemy intrenched on Cave Hill, which is located on the enemy's extreme left flank. Two rockets were sent up by Company B to signal the battalion command post that they could advance no further. Three rockets were sent up by the battalion command post to signal the Chemical Warfare Section to concentrate smoke and gas on Cave Hill.

One observation plane and one Martin bomber circled the area during the attack and messages were dropped by the observation plane giving information to the battalion commander. The Martin bomber was signalled with panels to place a smoke curtain in front of Cave Hill and a dense screen was laid by this bomber. Under protection of the smoke screen, a company formed and delivered an attack on Cave Hill, one rocket signal informing the battalion commander that the hill had been taken.

Company C then advanced abreast of Company A and B, leaving the third platoon of Company A in reserve, and these three companies delivered a final assault on the enemy positions. This assault being successful, they prepared to hold this ground, since airplane messages had given information that enemy reinforcements had arrived in Carlisle in trucks.

Unit Commander's Class at Bloody Angle, Gettysburg, Sept. 19, 1926.

During this attack the Medical Section was seen to function in a most realistic manner. This section, consisting of 2 medical officers and 22 enlisted men, was divided into three squads as follows:

a. A company aid squad of 8, two with each company of the battalion. These men followed up the assault companies giving first aid and tagging wounded, but kept contact with their companies throughout the attack.

b. The litter bearer squad of 8 men. This squad was divided into three groups, two 3 bearers, and one 2 bearer. The two bearers functioned with the new wheel litter which has been devised by the Medical Field Service School laboratory. This litter is still in the experimental stage, but appears to be giving very satisfactory service. These groups functioned behind the assault companies, collecting wounded and carrying them to the aid station.

c. The aid station squad of 6 enlisted men, one being a staff sergeant, one sergeant, one corporal, and three privates. They, together with the two medical officers, functioned at the aid station. The aid station was partially established at the edge of a woods about 500 yards behind the line where Company B was held up by the heavy fire from Cave Hill. When the final objective was reached by the battalion, the battalion commander ordered the aid station forward about 600 yards to a deep and well protected gulley. They continued to clear the field of wounded. There were 70 wounded of all types, 35 walking and 35 litter cases, and all were given treatment and tagged by company aid men. All cases were recorded and given further treatment in the aid station, the time required to collect all cases at the aid station being approximately 2½ hours.

The maneuver, technically explained by Capt. Blesse, was very realistic and reminded most of the student officer observers of the thrilling days of eight years ago, when every sound of gun fire carried death to men on both sides of No Man's Land.

This demonstration, together with a field exercise, conducted September 24, several miles below Carlisle, gave the medical men a clear conception of the very latest ideas in army medical tactics.

A pleasant feature of the course was a dinner tendered by the class to Lt. Col. Reynolds and his staff at the Carlisle Country Club. Nearly 125 officers, in full uniform, were present.

Col. G. G. Cottam, of Sioux Falls, S. D., delighted the officers by his performance of the duties of post prandial director. His humor was spontaneous, his stories apropos and his finger was continually on the trigger.

The responses to the toasts were clever, witty and serious in turn and each speaker filled his part of the program to the apparent satisfaction of the auditors. The orating officers were Colonels Kinnard, Robey, Sherrill and Baketel. Col. Reynolds was the *piece de resistance*. Music was furnished by an orchestra from the post band and a quintet, composed of Colonels Penberthy, Pollard and Baketel, Lt. Col. Westervelt and Major McFee. It is of interest to note that Drs. Pollard, McFee and Baketel sang together on the Dartmouth College Glee Club during the college year 1894-95.

The Country Club, where this excellent banquet was served, extended its golf privileges to the officers and several took advantage of the opportunity to solve golfing instead of war problems occasionally.

The returns of the Tunney-Dempsey fight were received by telephone in the post gymnasium and most of the class were present to cheer the winning fight of 1st Lt. J. J. Tunney, U. S. M. C. Res. It was evident that the officers and enlisted men recalled the gallant charge of the riveters in a California shipyard led by the now ex-champion, and consequently they gave their unanimous support to the conquering leatherneck. From that always reliable source of authoritative information, the latrine, much money is alleged to have passed into the hands of some of the reserve officers from the exchequers of their patients and friends who wagered well but not wisely.

Unit Commander's Class at Bloody Angle, Gettysburg, Sept. 19, 1926.

Many men contracted a new habit during the two weeks—that of frequenting the movie houses. The 7 o'clock performance of the picture houses in Carlisle was made colorful by the great array of eagles and silver and gold leaves, profusely interspersed among the civilian audience. Some good pictures acted as a tonic at the end of a strenuous day.

The regular officers were the soul of courtesy to their quondam civilian-soldier pupils and exerted every effort to make the visitors feel that they were not only *in* the army, but *of* it, as well. The Surgeon General's personal interest in the course was indicated by the presence of Col. Carl R. Darnall, M.C., executive officer of the S. G. O. and a powerful factor in the formulation and execution of medical military policy in the war department. His visit was greatly appreciated by his old friends in the reserve, some of whom came in intimate contact with him during the war.

Pen and ink sketch of Officers Reserve Corps Camp at Carlisle Barracks, Pa., drawn by Capt. E. J. O'Shaughnessy, M.R.C., New Canaan, Conn.

Life in the camp seemed like a college reunion. Friends met who had not seen one another since the hectic times of 1900-01 in the Philippines or the strenuous days in war-torn France. Four ex-regular medical officers, Colonels Pinkham, Kinnard and Lt. Cols. Neff and Spillman hobnobbed with ex-contract and volunteer surgeons they had met in our insular possessions, while many a man recognized and fraternized with friends of years ago.

The morale of the organization was very high. If there was any "crabbing" it did not reach the ears of the chronicler. The aristocrats of the profession joined with some of the humbler members in making the two weeks a period of pleasure and profit. Most of the officers, long out of medical school, found the daily routine rather irksome at times, for concentration, unless the lecturer were dynamic, was difficult, especially after a heavy luncheon. Some heads nodded, other men wriggled about like small boys, and eyes of still others revealed a vacant stare indicative of the wandering mind. The course was, however, of great physical and mental benefit to every one. Calisthenics and drilling daily for two weeks reduced surplus colonelian fat and many a man wrote home that he was "getting hard as nails."

Some officers had no occasion to write home, as their wives, and in some instances their children, accompanied them, thus adding to their peace of mind. More than a third motored to Carlisle. One day there were noted in front of the mess hall cars with licenses from Massachusetts, New York, Illinois, South Carolina, Colorado, Montana, Wisconsin, Tennessee, Kansas and of course Pennsylvania.

The Medical Field Service School is, as has been said, the West Point of the Medical Department. Not only do all young graduates of the Army Medical School take four months intensive courses in field service at Carlisle, but courses are laid out for medical officers of the Reserve and the National Guard. In addition courses of considerable elaboration are given to the R. O. T. C., the C. M. T. C. and to non-commissioned officers of the guard. These courses are from six to eight weeks in duration.

The faculty is composed of specialists, each one of whom is particularly chosen for his fitness. As a matter of information and without making invidious comparisons: Maj. Fletcher is the mechanical and inventive genius of the army. He has designed all kinds of valuable equipment and is now completing an ambulance, which, if adopted, will put the old type into the discard. His ingenuity amounts almost to wizardry, as is indicated by the equipment for a battalion dispensary, which although capable of treating hundreds of cases at the front, is transported in 6 cases, smaller than the average trunk.

Maj. Dunham is a graduate of the Army Medical School, the London School of Tropical Medicine, the School of Health of Johns Hopkins, and the Army War College and is recognized as the army's factotum in military hygiene.

Major McDonald recently was graduated from the Fort Leavenworth Service School and is most highly regarded as a strategist, while Major McKinney, of Napoleonic feature, has few equals as a student of tactics, plans, mobilization and military history.

The roster of Carlisle Barracks includes 27 officers and these enlisted men: 282 1st Medical Regiment; 123 Detachment Medical Department; 25 Band; 24 Quartermaster Corps; 13 Casuals; 1 Finance Department; 13 Veterinary Detachment or 481 men.

The roster of officers on duty at Medical Field Service School, including the faculty of the school is:

Lt. Col. C. R. Reynolds, M. C., Commandant.

Majors G. L. McKinney, M. C., Director Dept. of Training; R. G. DeVoe, M. C., Commanding Officer, 1st Med. Regt.; J. P. Fletcher, M. C., Director Dept. of Equipment and Transportation; R. C. McDonald, M. C., Director Dept. of Military Art; F. R. Wunderlich, D. C., Senior Dental Representative; G. C. Dunham, M. C., Director Dept. of Hygiene and Sanitation; H. D. Porterfield, M. C., Executive Officer, Adjutant; L. A. Fox, M. C., Surgeon; J. M. Willis, M. C., Director Dept. of Administration, Comanding Officer, Detch. Med. Dept.; H. S. Williams, V. C., Senior Veterinary Representative.

Captains—F. A. Blesse, M. C. Adjutant and Plans and Training Officer, 1st Medical Regiment; G. B. Denit, M. C., Secretary of the Faculty; J. A. Rogers, M. C., Comanding Officer, 1st Amb. Co., 1st M. R.; Oscar Burkard, M. A. C., Medical Supply Officer; H. T. Wickert, M. C., Commanding Officer, 2nd Amb. Co., 1st M. R.; J. N. Lothrop, M. A. C., Assistant to Secretary of Faculty; Frederick Thomas, M. A. C., Regimental Supply Officer, C. O. Service Co., 1st Med. Regt.; H. W. Kinderman, M. C., Commanding Officer, 1st Coll. Co., 1st M. R.; G. P. Sandrock, M. C., Commanding Officer, 1st Hosp. Co., 1st M. R.; R. C. Bower, Q. M. C., Quartermaster; I. R. Pollard, V. C., Commanding Officer, 1st Vet. Co., 1st M. R.

AT LITTLE ROUND TOP, GETTYSBURG
Left to right.—Col. Scannel, Col. Penberthy, Maj. Batchelder.

First Lieutenants—J. C. Schwieger, M. A. C., Mess and Post Exchange Officer. H. I. Rice, M. A. C., in charge of Printing Plant.

Some of the student officers believe that the school will offer greater opportunity to its prospective clientele if added facilities for their creature comforts are added. Large tents, holding 20 army cots, were supplied. Men who have reached field rank do not care to be housed with their fellows who possess snoring proclivities and belong to the prostatic brigade. Small tents for two officers would add materially to personal satisfaction. It is difficult to properly police tents with civilian help. Officers would prefer enlisted men for this purpose.

The plain on which the O. R. C. camp is located is beautiful, but no attempt has been made to beautify the grounds. If the company streets and walks were covered with cinders, the clay of the terrain would stay put where

TENT MATES AT CARLISLE BARRACKS
Left to right.—Col. Baketel, Col. Pinkham, Col. Penberthy, Maj. Stringfield. In the rear, Capt. O'Shaughnessy.

it belongs and would not creep into one's bed on a rainy night.

It would seem easy, with prison labor, to lay out grass plots around the tents. Student officers do not expect de luxe soldiering, but they are used to pleasant surroundings and the natural environment of the camp demands that it be properly treated aesthetically, lest it stand out as prominently as a sore thumb.

A swimming pool is an actual necessity. Fifteen hundred men have gone through training in the camp this year. Their comfort would have been tremendously enhanced if they could have whiled away a spare hour or two in a pool.

On the whole, however, the camp was finely managed. Some men felt that Russian caviare, pate de foi gras, and a few such necessary items of diet should have been added to the daily menu. The food was wholesome and plentiful, the coffee was strong enough to tie a knot in a mule's tail and the service was excellent.

Col. Reynolds is the ideal commandant. A fine soldier, a competent medical man, a gentleman to his finger tips, he endeared himself to every student officer. And the members of his staff ran him a close second.

The School is a credit to the Army, and it should be the ambition, as well as the pleasure, of every reserve and national guard medical officer to take a course at Carlisle.

More power to it.

H. S. B.

The Glands of Internal Secretion

The Effects of Puberty

H. Lyons Hunt, M.D., L.R.C.S., L.R.C.P., Edin., L.F.P.&S., Glasgow
New York.

The term puberty designates the initiatory period of sexual development, the dawn of the vita sexualis, the beginning of the unfolding of the procreative faculties. The period of childhood terminates at puberty. In general puberty begins a year or two later in males than in females. Climate, race, vigor of constitution, heredity and social conditions have a marked influence on the period of life at which the earliest manifestations of sex appear. Puberty arrives earlier in warm countries and among the rich than in cold countries and among the poor. It is said that city-bred children arrive a year earlier at puberty than country children do. In temperate climates puberty is reached in boys at fourteen to sixteen years of age, and in girls about two years earlier.

Race plays an important part; the Jewesses, who belong to an unmixed people, begin to menstruate at about the same age in all latitudes, namely, at fourteen or fifteen. Also heredity plays an important role, some being notably precocious or notably tardy in development.

Until about the age of puberty, girls and boys are simply children, practically generis neutrius, but now the greatest physiological era in their lives, next to that of birth, is about to raise a barrier between them, and send them along roads diverging to womanhood and manhood. From now on the similarity between the sexes rapidly disappears; their undifferentiated sexual characteristics become strongly masculine and feminine, and the psychical differences are even more distinctly developed than the somatic changes.

These contrasts come on gradually, and several years of adolescence are required before the sexual types are clearly defined.

The establishment of puberty is commonly dated from the cracking of the voice and the first seminal emission in boys; the enlargement of the breasts and the first menstrual flow in girls. But it is important to understand that the capacity for reproduction—true puberty—is not necessarily acquired coincidently with these events. Spermatozoids may not be secreted for some time after the primary involuntary discharge, and menstruation may occur months before the commencement of the ovulation. In girls, maturity of the secretory function of the genitals manifests itself by the menstrual hemorrhage which accompanies ovulation, that is, the expulsion of the ovum ready for fertilization.

Many of the changes of puberty are common to both sexes; such as the rapid skeletal growth and the appearance of hair on the face, the alteration of the voice, and the appearance of hairs all over the body, are peculiar to the male; while others again, such as the development of the mammary glands, the peculiar pelvic formation, and the deposition of fat in certain localities are essentially feminine.

Among the secondary sex characteristics which make their appearance at puberty, are these reflex nervous mechanisms which are concerned in the performance of the sexual act. Through the agency of the internal secretion of the genital glands, the apparently low nerve centers acquire a specific sensibility.

The changes of puberty, however, are not confined to the lower centers of the spinal cord. That the functions of the cerebral cortex are also affected is shown by the occurrence of sexual desire and by the psychic changes which accompany "the storm and stress period."

The changes in the female are more complex and profound than in the male, and the bodily disturbances of greater intensity.

This is the second article in this interesting series.

Up to and before the period of pubescence the glandular or follicular portions of the ovary have not been active as far as menstruation is concerned—at least not as a rule. The interstitial and glandular ovaries, have, however, been performing some of the functions which are related to the development of the secondary sex characteristics, the most characteristic of which are the future mammary glands.

As Bandler notes, if we at this time compare the frame, outline and typical locations of fat distribution of the boy and girl, we see differences sufficiently marked to realize that they, as well as the differences in tastes and emotions, are due to the fact that the ovaries in the girl and testicles in the boy must be—as they are—among the responsible factors and that these differences have occurred through the medium of the ovaries on the one hand and the testes on the other.

The writer disagrees with Bandler's conclusions, drawing his own deductions from the researches of Stanley and his own operative work. In over a thousand cases which Stanley had, in both men and women he injected testicular tissue, and in some four hundred cases of gland transplantation, which the author performed, he transplanted testicular tissue in a number of instances in women. No differences could be distinguished as far as results went, whether the ovary was used or the testicle.

Approaching and during the period of puberty, the pineal gland, the hypophysis, the para-thyroids, thyroid, the thymus, and the adrenals have been contributing their internal secretaions, making and molding the child's body, viscereal and sex structures, and last but not least, the mind or psyche.

The anterior pituitary is essentially related to the growth of the frame, of the muscle and the development of the brain; the posterior pituitary is particularly related to the development of the sex organs and to metabolic processes; the thyroid is the great activator; and the normal action of the thyroid is of the greatest importance in promoting those trophic and nutritional changes in the brain which lead to the development of mind and memory.

Among the glands, the thyroid, the pituitary and the adrenals are closely associated with the development of the genitalia. As the ovaries begin to show added secretory power, which results eventually in menstruation and ovulation, a new secretion, the corpus lateum, also is brought into the circle of endocrines, and all of them are now concerned in the development of the body, mind, sex organs, and sex functions—from puberty through adolescence to adult life.

Just what the relation of the thyroid to sex development is, we have no knowledge. That there is relationship cannot be questioned. Simple parenchymatous goitre is so frequent at puberty, disappearing after the menstrual function has been established, that it is common knowledge.

The onset of puberty in girls is usually preceded by pains in the lower part of the back and in the loins, dragging sensations in the pelvis, tired feelings in the legs, headache, neuralgia, irritability of the bladder, sensations of heat and chilliness with flushing or pallor of the face, nervousness and depression. Sometimes gastro-intestinal symptoms are noticed, such as dyspepsia, flatulence, loss of appetite, diarrhea or constipation. At other times, vertigo, palpitation and irregular action of the heart are remarked. Occasionally, some degree of moral aberration is a disagreeable feature.

These various symptoms may occur two or three times at monthly intervals before menstruation actually begins, or may immediately precede the first flow.

At this point the writer wishes to call the attention of the reader to the fact that these same foregoing symptoms are not only associated with the development of the function of ovaries and testicles but they are identical with the loss of function of these same organs. In other words, they are practically patho-pneumonic of the climacteric as well as pubescence. It would be a fair conclusion then to say that these symptoms are characteristic of any disturbance of the sex organs.

During the year before menstruation starts the girl usually grows rapidly and shows a considerable increase in size and weight, much more in proportion than in the case of a boy of the same age.

The girl's external genitals should be kept scrupulously clean, and the smegma which is secreted by the sebaceous glands of the labia minora requires careful washing away or it may become offensive and irritating and lead to habits of masturbation. Where the clitoris is unusually large, sexual malpractices are especially liable to be developed. In very rare cases the appendage may even require removal, but the condition of enlargement to such a degree as to demand operation is practically confined to native Eastern people and savage tribes. The latter sometimes also practise a process known as infibulation, which consists in cutting the inner surfaces of the labia minora and then stitching the raised edges together so as to leave only a small aperture. Before marriage the opening is enlarged sufficiently to admit the husband's penis, and a further enlargement is made during pregnancy and just before parturition.

The care of the hymen is of some importance as a sign—though not a positive one—of virginity. The girl should be cautioned against the introduction of anything whatsoever into the vagina. Cases are met with where school girls have severely damaged this membrane out of pure curiosity and through the influence of bad example without any sexual ideas whatever.

It is at the time of puberty that the breasts first begin to assume the rounded protruding form so characteristic of graceful womanhood. They slowly enlarge and diverge from each other outward. The nipples are rose-pink in color and usually small. Just before the first menstruation the breasts are often somewhat sensitive and slightly turgid. At the same period all the external genitals are noticeably swollen and congested, and the clitoris may be a little enlarged by the engorgement.

These various physical alterations, together with the increase of the subcutaneous fat over the pubic region to form the mons veneris, and the growth of hair in the same locality, all tend to call the attention of the young girl to her sexual organs, and the ensuing ovarian stimulus followed by menstruation frequently arouse erotic impulses and awaken the hitherto dormant sexual desires.

Though in our climate the usual age of puberty is about the end of the fourteenth year, the appearance of it between the tenth and sixteenth years cannot strictly be considered abnormal. When, however, a child under nine years of age shows definite signs of puberty, we may look upon the condition as abnormal.

A close investigation of the reported cases of sexual precocity has shown that the production of precocious puberty in girls is not due to all those causes which may produce precocity in boys. Bell suggests that sexual precocity in boys may be produced by neoplasms and hyperplasia in the suprarenal cortex, in the testes and in the pineal, and possibly also in the pituitary. It is believed that in these circumstances there is an increase in the normal secretion of the organ concerned, except in the case of the pineal in which there is a decrease.

Many cases have been described in which puberty appeared quite early in both girls and boys. Such sex char-

acters as the penis and the hair of the regio penis were developed in boys at a very early age, when even erotization took place and pollution occurred.

Krabbe (1917) reported the case of a boy of ten months with a penis five cms. long and a virile type. There was a crown of dark short puberal hairs around the radix penis. Definite erections were often observed. The child showed various nervous troubles of a spastic character and was of the imbecile type.

Hirschfeld reports the case of a boy *four years old* with milk teeth, and genitalia like those of a boy of sixteen or eighteen; the voice was that of an adult man. Lipschutz recently had the opportunity of seeing a boy of three years and three months who was highly developed in every respect and whose body length was 113 cms. against a normal body length of about 90 cms. at the same age; the circumference of the head was 55 cms. against a normal one of 49 cms. There were no clinical signs of a cerebral tumor. The penis had a length of 8 cms., the scrotum was voluminous and the testicles were as large as in a boy after puberty. The hair of the regio penis was highly developed. An erection was observed when the boy was in the hospital. There were no signs of acromegaly. The boy was very strong and helped in the household. His mental development was far beyond his age. His behavior towards his surroundings was that of a boy of seven or eight years. There are cases in which the precocious individual attains a size even smaller than the normal one. This is due to the fact that the growth of the bones stops sooner than in normal individuals. The condition of the skeleton in sexual precocity is the opposite to what we observe in eunuchoidism; in the latter the suppression of the endocrine function of the sex gland causes a more prolonged persistence of the zone of proliferation in the long bones, whereas in sexual precocity an exaggerated hormonic activity of the sex gland causes disappearance of the zone of proliferation sooner, and thereby the growth of the long bones comes to an end precociously.

Sexual precocity is sometimes connected with tumors of the pineal gland. However, sexual precocity connected with pineal tumor has so far been recorded only for boys. According to Bohm there must be some interrelation between the pineal and the male sex gland.

Bell's investigation concerning precocity in girls show that true feminine sexual precocity appears to be produced by tumors and hyperplasia in the ovaries almost invariably; for changes in the suprarenal cortex, the pineal, and the pituitary, resembling those which in boys produce precocity, in girls tend to produce masculinity. The latter cannot be considered female sexual precocity, although there is little doubt that in some of the recorded cases masculinity with adult manifestations, such as hair on the pubes, has been described as feminine precocity. The essential, phenomena, however, associated with feminine sexual precocity are the early development of the adult feminine secondary characteristics and the functional activity of those organs which are peculiar to the female sex.

Precocious puberty has been observed in quite young girls. Thus we meet with cases in which menstruation becomes established at the age of five, two, or even earlier. Carus reports the case of a woman whose medical history showed that she had begun to menstruate at the age of two years, and that she became pregnant for the first time at the age of eight years. Pregnancy in girls from ten to twelve years of age has many times been observed. A French physician had under observation a girl, who, when only *three months old*, had well developed breasts, and only a little later the pubic and axillary hair grew and menstruation began. When twenty-seven months old, the child was again seen by the same physician, and at this time menstruation was proceeding regularly; the features had now lost the infantile type, and the body exhibited all the signs of premature development.

In one well-authenticated case menstruation already existed at birth, and in a large number of cases it occurred before the expiration of the first year. In many cases the development of the breasts preceded the appearance of menstruation and was noticed from the time of birth.

In several of the cases of premature puberty, sexual intercourse and even parturition occurred at a very early age. A girl who began to menstruate at the age of nine years, became pregnant shortly afterwards (d'Outreport). A girl in whom menstruation began at the age of one year, gave birth to a child when she was ten years old (Montgomery).

Observations made by Kussmaul and by Hofmaier show that in many cases changes in the ovaries form the probable cause of precocious menstruation and the other phenomena of premature puberty.

In a case of Hofmaier's, for instance, a girl of five with precocious menstruation, the removal of a rapidly growing ovarian tumor was followed by the cessation of menstruation, and the pubic hair which had been shaved off did not grow again.

Kisch notes that abnormally early puberty related to the early practice of sexual intercouse is seen in many prostitutes. It has been shown that in nearly all prostitutes *the first coitus took place before they attained the age of ten years.*

Reuben and Manning contend that in a great majority of cases precocious puberty is due to functional hypersecretion of certain glands, and in the minority of cases to malignant growth in certain of these glands. The authors have not found a single case of autopsy or operation in which a primary dysfunction of the pituitary gland was found; they think, therefore, that the evidence in cases of pituitary precocity is not conclusive. Not a single case of thyroid precocity came to autopsy in which the condition was primarily due to the thyroid. It may be secondarily involved, however.

The glands which can primarily produce permanent sexual precocity are the adrenal cortex, pineal, and the ovaries and testicles. Precocious puberty is not only a sexual precocity but also a total precocity which involves the whole body and all the organs. It is not a distinct entity.

Contrasted with the pubertas praecox is the retardation of the whole course of sexual development. In respect to one symptom or several, many individuals may remain throughout life in an infantile condition. The scrotum may be lacking and contain either notably small testicles or only one, or none. The separate genitals are not all necessarily hypoplastic. The cryptorchid testicle, that is to say, one which has been arrested in the descent, shows no spermatogenesis, and consequently is incapable of reproduction, but against that it has a very much increased number of Leydig's cells (Placzek). Along with the childish psyche a constitutional anomaly of the sexual impulse exists. Owing to the constittional arrest of development, the sexual impulse may be limited and the sexual act truncated in diverse fashions. Fixation may be carried so far that the infantile individual derives his greatest pleasure from pretending to be a child.

The writer has not found that infantalism is necessarily associated with lack of psychic and sexual precocity. A case referred to the author in 1923; a woman of 31 years of age, with bodily infantalism; calves of the legs undeveloped, narrow, masculine-like pelvis, little or no

development of the breasts, infantile uterus, associated with the dysmenorrhea with which so many of these cases are afflicted, gave a history of excessive sexual impulse to such an extent that she had for many years supported her husband for no other reason but the sexual gratification she derived from marriage.

Gibbs reports that the manifestations of abnormal sexual development found in 325 male patients suffering from dementia praecox. The testicles of the patients compared favorably in size with those in normal persons, but frequently the organ felt hard and firm. In many the cord was firmly adherent, the testes ridged or corrugated and inclined to be spherical. A purely feminine type of pubic hair was noted in 13 per cent of the cases admitted between the ages of 16 and 20, and this percentage seemed to persist into later life.

Sexual relations with the opposite sex had never been accomplished by 64.1 per cent of those dementia praecox patients who could give a reliable account of themselves. Even in those not admitted until 25 to 34 years of age sexual intercourse had not taken place in 50 per cent of the patients, indicating that the disease had started at puberty or soon after.

The author suggests that these findings indicate a disturbance of sexual development and a failure of sexual maturity during the years of puberty and adolescence. Gonads and interstitial cells, he believes are essential to complete sexual maturity, but they are not self-sustaining. Other internal secretions may stimulate or activate them, and adequate functional activity of the pituitary, thyroid, and suprarenals seem to be necessary for sex growth and function.

In certain pathological conditions puberty may never supervene. Bell thinks that in such circumstances the patients are the victims of some severe general disorder, usually connected with the cryptorrhoeic system. Thus, with cretinism the patient remains in a condition of sexual inactivity, and the secondary sexual characteristics and functions are in abeyance.

In the case of a female cretin, who died at the age of thirty-three years, Bell had the opportunity of examining the genital organs and the distant hormonopoietic glands. The ovaries were large and smooth and the uterus well formed. On histological examination the ovaries were found to be devoid of Graafian follicles, but bands of hyaline substance, which represented the remains of atretitc follicles, or possibly of corpora lutea, were seen. The stroma of the ovary, which was very dense, was not composed of fibrous tissue, for it was stained yellow by Van Gieson's method. The endometrium contained but few glands, and these were embedded in a very dense stroma. The thyroid was entirely absent, but the parathyroids were present and showed a tendency to form colloid. The pituitary was enlarged and altered in structure. The pars anterior was very rich in chromophobe and basophil cells, but there were very few eosinophile cells. This lobe was divided up by broad bands and masses of structureless substance that might be secretion. There was a thick fibrous tissue capsule surrounding the whole pituitary body. The pars intermedia contained some "colloid" and appeared normal. It was, however, more teased out in appearance than is usual. This patient had taken thyroid extract for some years. Bell believes that if she had been treated from an early age the genital functions might have been aroused, for there was no doubt that the development of the reproductive organs had advanced far beyond the fetal stage and had reached that seen in puberty.

Cortical neoplasms in the suprarenals which lead to sexual precocity and muscular development in boys, cause atrophy of the genitalia in women, and when present before puberty would probably, if the child survived, prevent that period of development occurring.

In this connection the writer, while not taking entire exception to the conclusion of Bell, would call attention to one of his own cases:

Patient—male; age—30; nationality—Swiss; bachelor, gave the following history:

Mother died at 40 of complication of infections; father died at 47 of tuberculosis.

Personal History:

Home environment—meals irregular; stools constipated; no regular exercise.

Occupation—electrical engineer.

Habits—regarding alcohol, was a teetotaler. Smoked on an average of one package of cigarettes daily. Took veronal to produce sleep. Never indulged in normal sexual intercourse, but had masturbated over a long period.

Sleep disturbed. Unable to sleep for a year and a half on account of nervous condition which began seven years previously.

Past History:

Measles as a child; no constitutional diseases; rheumatism, genital or nervous affections.

Past Operations:

Tonsillectomy and circumcision.

Urine, blood, feces and Wassermann negative.

Personal History:

General pigmentation throughout the whole body. Testicles enlarged, hardened, especially the left. Complete impotence. Marked neurasthenia. Great general body weakness; lack of concentration.

Patient's condition had been diagnosed by numerous physicians —Addison's disease.

Following gland transplantation patient gained 26 pounds in weight, potence returned, pigmentation and asthenia disappeared.

The conclusions in this case would not indicate that disease of the suprarenals would lead to sexual precocity and muscular development.

In some cases the appearance of puberty may be delayed. In this condition the causes are both physical and psychic, and these are often co-operative. Hard work, mental or physical, unhealthy environment, bad feeding, and similar conditions may delay the onset of puberty for many years. Bell believes that close association with boys and men has a stimulating effect upon the sexual development of most girls. *The treatment of delayed puberty therefore involves a change of environment, and often the patient's whole mode of life.*

In addition to the normal conditions and changes associated with the onset of puberty, it is not uncommon to find the patient subject to various disorders more or less directly due to the onset of menstruation. Thus, the occurrence of sexual maturity may give rise to various phsycoses, neuroses and physical disturbances.

The psychoses range from hysteria to sexual insanity, and are undoubtedly produced by changes in the metabolism which occurs at this time. In addition to these more serious conditions, bad habits associated with nervous instability and masturbation are frequently seen.

The neuroses are both motor and sensory. In connection with motor disturbances we may observe pseudochorea, spasms, functional palsies and visceral disturbances. Sensory affections are most frequently seen in connection with special senses of smell, taste and sight.

The physical disturbances are chiefly to be traced to the hormonopoietic system. The onset of puberty is normally associated with enlargement of the thyroid gland. As a rule, this is only seen in any marked degree during the first two or three years of menstruation. This enlargement is entirely physiological and treatment is unnecessary. Sometimes the pituitary shows increased activity at puberty, and this may lead to acromegaly.

(Concluded on page 288)

Complications Incident to the Operative Treatment of Inflammatory Diseases of the Gall-Bladder

AIMÉ PAUL HEINECK, M.D.,
SURGEON TO THE FRANCES WILLARD, LAKESIDE, ST. PAUL AND WASHINTON PARK HOSPITALS,
Chicago, Ill.

During the last ten years great advances have been made in the diagnosis and operative treatment of diseases of the gall-bladder and bile-ducts. Further improvement evidently is possible in diagnostic precision, timeliness and completeness of operative relief and obviation of recurrences. The unflagging inculcation of established facts and the combined efforts of internists, surgeons and laboratory workers have given us a more detailed understanding of the etiology, symptomatology, anatomical evolution and therapeutic indications of the various pathological processes of the biliary tract. Cholecystitis, acute and chronic, and its manifold complications call for operative relief. In the early stages of the disease, surgical therapy judiciously applied, will cure 66 per cent and improve 34 per cent of the cases which survive the procedure.[8] The study of the pathological processes of the upper right abdominal quadrant and of the operative procedure most suitable to this region has received a marked impetus from the beneficent results attending early operations. In inflammatory diseases of the gall-bladder and biliary passages, medicinal measures are almost always purely palliative; they are not curative. Dietetic, hygienic, physio-therapeutic and medicinal measures should precede, accompany and supplement the operative treatment of cholecystitis and its complications. To this dictim, there should be no exceptions.

Gall-stones, irrespective of size, number, nature and location, lodged or impacted in the gall-bladder, in the cystic, hepatic or comomn duct, or in a diverticulum, call for early operative removal. All collections of pus within the gall-bladder, bile tracts or in juxta-position to the biliary system, call for early operative evacuation.

For the relief of cholecystitis, cholelithiasis, obstruction of the cystic duct, pericholecystic adhesions, etc., two operations, cholecystostomy and cholecystectomy, are generally performed. These two operations, judged by the results obtained, possess merits and have their respective indications,[5] limitations, difficulties of performance, operative and post-operative accidents, morbidity and mortality.

Greater precision in diagnosis, early and timely operations, better operative technic and judicious pre-and post-operative management of gall-bladder diseases have extended the indications of cholecystectomy, lessened its operative difficulties, improved its immediate and remote results and contributed to its more frequent performance. The mortality attending timely gall-bladder operations, properly performed, is, at the present time, almost negligible. "During the eleven months, from November 1, 1915, to October 1, 1916, we performed 776 cholecystectomies with a mortality of 1.77 per cent.[1] "The mortality following cholecystectomy in the treatment of cholecystitis with or without stones is low, only 1.8 per cent in 2,460 operations performed during the period of three years.[2] "Forty-five cholecystectomies were performed for acute cholecystitis, with no deaths, and twenty-two cholecystostomies, with one death. There were eleven deaths in 890 cholecystectomies for chronic inflammation in the gall-bladder."[3] We feel confident that additional improvement is feasible. The best time to operate for the cure of gall-bladder and bile-duct disease is before the advent of irreparable anatomical changes. At this stage, the mortality should be less than 1 per cent[6] and complete recovery the rule. Cholangitis, choledochitis and common duct stone are late and serious complications, difficult of operative relief and sometimes fatal.

In this article we discuss the following operative and postoperative complications incident to surgery of the biliary tract:

(a) Incomplete disappearance of symptoms and recurrences;
(b) Postoperative adhesions;
(c) Operative and postoperative hemorrhage;
(d) Postoperative external fistulae (operative bile-duct injuries);
(e) Postoperative biliary peritonitis.

Incomplete Disappearance of Symptoms and Recurrences

In acute or chronic cholecystitis, primary or secondary, calculous or non-calculous, early or late, isolated or associated, the paramount indications are to arrest infection, remove inflammatory products, correct existing anatomical changes, restore liver function to normal, nullify the effects of the disease sequelae and prevent the return of inflammatory disturbances. The avoidance of postoperative distress in all cases is more than one can reasonably expect.

By instituting operative relief at the onset of the disease, when the inflammatory process is still limited to the gall-bladder or before it has seriously involved, damaged or crippled any contiguous organ, one is far more likely to secure a complete and permanent disappearance of symptoms. The ideal time to operate is while the condition, local and general, of the patient is good. Early operation is easy of execution and forestalls complications; delay invites disaster. Delay permits the development of dangerous local and regional complications, viz., cholangitis, pancreatitis, common duct obstruction, perforation, etc., and may induce remote disturbances (vascular, cardiac and arthritic). The chief avoidable technical cause of incomplete cure are: Defective or improper technic; undue operative trauma; lack of thoroughness in the digital and instrumental exploration of the bile-ducts. In most instances, common-duct stones can be detected by introducing the finger into the foramen of Winslow and milking the choledochus between the fingers. No doubt some recurrences are due to a calculus or calculi overlooked at the previous operation.

Diseases of the right hypochondriac and epigastric regions are insidious in development, are frequently unrecognized, not uncommonly misdiagnosed and often come to the operating table too late to be completely and permanently relieved. Tardiness of operative treatment is the main cause of incomplete cures and of recurring symptoms. The cases with advanced pathology are those that present a stormy postoperative course.

The increased popularity of cholecystectomy (84 per cent of patients after cholecystectomy are free from all symptoms[4]) is due to the fact that cholecystostomy often gives only incomplete and temporary relief. A successful cholecystectomy, followed by appropriate medical treat-

ment, cures disturbances directly dependent on disease processes limited to the gall-bladder, prevents the extension of inflammation from this organ to contiguous organs and exerts a beneficent influence on local and regional inflammations due to or maintained by it: Hepatitis, pancreatitis, duodenal ulceration, etc. A retained diseased gall-bladder is a frequent cause of ill-health and a potentional source of future trouble. It is a decided factor in the recurrence of gall-stones, of infective inflammation and in the persistence of local and regional symptoms such as pain, indigestion, etc. Obstructive jaundice, either intermittent or chronic, developing after cholecystostomy is due to a stone or stones overlooked or reformed in the gall-bladder and lodging in the common bile-duct, to stricture or kinking of the choledochus, to fibrosis and traction of an adherent contracted gall-bladder, etc.

Deaver[7] states that 65 per cent of his recurrences could have been prevented by removal of the gall-bladder. Cholecystectomy often gives brilliant immediate results and eliminates the annoyance and discomfort incident to prolonged postoperative drainage. After cholecystostomy, the persisting symptoms are due to residual pathology; after cholecystectomy, they are mainly of mechanical origin and often result from operative trauma. Careful examination of the cystic, hepatic and common ducts and the systematic removal of any duct obstruction, calculous or inflammatory, secures better results. The removal of all foci of infection, proximal or distal to the hepatic system (tonsillar, dental, duodenal, appendiceal, colonic, etc.), is essential to perfect health. Appendectomy is nowadays almost a routine procedure when operating on the biliary tract.

The physiology of the biliary system is intricate and our knowledge of the functions of the gall-bladder is as yet incomplete and indefinite. Therefore, the gall-bladder should never be removed in the absence of positive indications or if it be highly probable or evident that "it can come back." Though the human body, owing to its great power of adaptation, compensates for the loss (by disease or by removal) of the gall-bladder, the needless sacrifice of this organ is a mutilation and can lead to invalidism; it may prove fatal.

In a large number of cases recovery is gradual. In others, even in the hands of the most experienced and irrespective of the type of operation performed, permananent and complete relief is not obtained. The persistence and recurrence of symptoms are due to the patient's nervous instability, the existence of long-standing and advanced pathological changes not admitting of operative correction or removal, such as hepatitis, pancreatitis, etc., adhesions, operative injuries, inadequate pre- and postoperative treatment and metabolic distrubances. "Pancreatitis associated with or secondary to cholelithiasis has recurred after cholecystectomy and led to pancreatic cyst-formation."[9] A thorough knowledge of the technic and the respective indications and limitations of cholecystostomy and cholecystectomy will enable the operator to remove and to obviate most of the frequent causes of incomplete relief, such as impaired motility, elasticity and contractility of the gall-bladder, strictures or kinks of the cystic duct, adhesions of the pylorus, transverse colon or omentum to the gall-bladder or liver, duct obstruction, etc.

Postoperative Adhesions

After gall-bladder and bile-duct operations, patients often complain of symptoms referable to adhesions existing between the gall-bladder and neighboring vicera. The operator must aim to minimize as much as possible the formation of peritoneal adhesions. In 3,000 abdominal operations, symptoms manifestly due to postoperative adhesions were present in from 10 to 12 per cent of cases; in 3½ per cent of these, operative relief was necessary (Payr-11). It is important to differentiate between the pain, tenderness, mechanical interference and other symptoms caused by adhesions of operative and postoperative origin and the neuro-psychogenic symptoms of postoperative neuroses, between adhesions, inflammatory in nature and congenital peritoneal folds. Postoperative peritoneal adhesions, irrespective of nature or location, are due to such factors as: Infection, intraperitoneal hemorrhage, mechanical and chemical injury of the serosa, denudation of peritoneal surfaces, foreign bodies, such as gauze-drains, drainage tubes, etc.

Postoperative cholecystic and pericholecystic adhesions may follow simple as well as difficult operations. They are occasionally symptomless. Usually they are provocative of persisting discomfort, permanent dysfunction and chronic obstructive disturbances. Patients with many pericholecystic adhesions can seldom be made entirely free from symptoms. Adhesions, by kinking or compressing the cystic or common duct, impede the flow of bile; biliary colicky pains and other distressing symptoms may result. When adhesions angulate or drag on the pylorus and duodenum, gas distress, gastric distension, spasm, vomiting and other digestive disturbances are likely to follow. Omento-cholecystic adhesions exerting traction on the greater curvature provoke painful gastric peristalsis.[10] The fixation by scar tissue of the pyloric end of the stomach or of the hepatic flexure of the colon to the liver is a not infrequent cause of gastric disturbances.

Innumerable methods and substances—liquid vaseline, sterilized olive oil, normal salt solution and non-absorbable membranes, such as rubber dam, collodion, oiled silk, etc., have been recommended to limit, to prevent the formation of peritoneal adhesions. They have all been found wanting. In the present stage of our knowledge, surgeons are not justified in using any of these agents in the peritoneal cavity. The absolute prevention of peritoneal adhesions is as yet an unsolved problem.

Adhesions are a frequent cause of incomplete relief, of failure to cure, of recurring inflammatory and obstructive disturbances; all factors leading to adhesion formation are to be studiously eliminated. Adhesions being infectious, inflammatory and traumatic in origin, their incidence as to frequency and extent can be minimized by the practice of strict asepsis, the observance of great gentleness in all operative manipulations, the infliction of minimal damage to the tissues and the adoption of the technic most appropriate to the case at hand. We will also avoid such contributory causes as the use of chemical irritants, needless handling and exploring of organs, the undue exposure of the serosa to the air. We will endeavor to reduce intraperitoneal hemorrhage to a minimum, to limit, as to duration and amount, gauze or tubular drainage to the bare desideratum and to cover with peritoneum all denuded surfaces. It is needless to say that the surgeon should operate with the greatest speed consistent with the patient's safety and thoroughness of execution. Chemicals, tincture of iodine, Dakin's solution, etc., cause the formation of adhesions by destroying the frail endothelium of the peritoneal surface. To inhibit the prolonged contact of denuded peritoneal surfaces, some advise the stimulation of peristalsis by purgation; others recommend that the patient's position be frequently changed.

Timely removal of gall-bladders presenting pathological changes minimizes the incidence, often prevents and

suppresses cholecystic adhesions; it gives access to pericholecystic adhesions and may enable the operator to remove or forestall their sequelae. Nevertheless, the indiscriminate removal of the gall-bladder is unsurgical, dangerous and is to be condemned. Cholecystostomy, with its associated prolonged drainage and possible escape of bile into the wound, leads to the formation of adhesions. Early removal of drains, gauze or tubal, is desirable. Bile-soaked drains excite the production of dense adhesions.

The removal of shrunken, atrophied, contracted gall-bladders or of those embedded in adhesions is difficult and leaves a raw surface which should, if feasible, be covered with an omental graft or by peritoneum. As much as possible, cover with peritoneum the fissure in the liver left by the removal of the gall-bladder and all other denuded areas and thereby obviate to a very large extent the occurrence of troublesome adhesions. One or two fine catgut stitches joining the lesser omentum to the mesocolon, or fastening the great omentum into the hepatoduodenal angle, walls off dangerous raw surfaces and may insure against the attachement of adhesions to the more sensitive pylorus or duodenum. Dr. C. H. Mayo says: Avoid annoying and permanent disturbances "by forming your own adhesions," by bringing up and placing the great omentum between the liver and the contiguous denuded areas.

In cholecystostomy, the drainage-tube having been brought through the abdominal wall, preferably through a stab wound, the gall-bladder is dropped back to its normal position; thereby a source of postoperative discomfort is avoided. The anchoring of the gall-bladder to the abdominal wall is undesirable, unphysiological and not infrequently causes permanent distress. The recurring attacks of pain and tenderness and the dragging sensation in the region of the scar are often relieved by fomentations and massage.

In dealing with adhesions in the bile-duct region, the surgeon should be exceedingly circumspect in order not to injure the important structures that are present in this region. The gall-bladder may be so bound down by inflammatory adhesions as to make its removal inadvisable. It has been been known to cap a perforated duodenal ulcer. A duodenal fistula[12] has been known to follow the separation of a gall-bladder adherent to the gut.

Operative and Postoperative Hemorrhage

Operative and postoperative hemorrhage attending operations on the biliary system is an alarming complication and may prove most troublesome and difficult to control; it may end fatally.

In the absence of jaundice, hemostasis is effected by the methods ordinarily employed to arrest hemorrhage in other abdominal operations. In a non-jaundiced patient, hemorrhage, operative or postoperative, is usually easily checked if the operator be conversant with its various causes. What are these causes? Overlooked and non-ligated bleeding points, insecurely tied ligatures, premature absorption of ligature material, accidental tearing or section of normal or anomalous vessels not infrequently embedded in inflammatory tissue, and oozing resulting from the tearing of adhesions and the dissecting of the gall-bladder from its hepatic bed. It is essential that the operator secure an exposure of the operative field ample to enable him to identify the important structures present in this region.

A suitable operating table, tilting or rotating, if possible, of the liver, wide retraction of the wound-edges and walling off of the intestines by gauze pads, all aid in securing a clearer view of and an easier access to the operative region. The incision should be adequate in length; it must permit the proper examination of the bile-ducts and the accompanying vessels. It is all-important that the operator be well versed in the topographical anatomy of the biliary region[13]; especially should he be well acquainted with the normal and anomalous distribution of its blood vessels and the variations in the mode of union of the bile-ducts. Whenever feasible, excision should begin at the cystic end of the gall-bladder, proceeding from below upward and in the direction opposite to the lymph-current; there is less hemorrhage, the operative field is less obscured by blood and perfect hemostasis more easily secured. The cystic artery lies above and behind and not along the side of the cystic duct and presents variations in number, origin, size, length, tortuosity and anatomical relations.

A single cystic artery is present in 88 per cent of individuals; in 12 per cent there are two cystic arteries. The bile-ducts are covered by plexuses of blood and lymphatic vessels.[14] If these be cut, troublesome hemorrhage may follow. If possible, isolate and ligate the cystic artery before it divides into its two branches and let it drop back away from the surface of the liver. In clamping the cystic artery, seize only the artery and its surrounding connective tissue. Should the knot or the forceps slip from or be pulled off the cystic artery, or should this same vessel or an important branch thereof be accidentally torn or cut before being grasped, profuse bleeding will occur. The indication is to immediately catch the bleeding point without injuring the bile-ducts. Compress the bleeding point with the forefinger and catch with a few mouse-toothed forceps the tissues about the forefinger. Then lift the forceps, remove the finger and clamp the artery. After all the bleeding points have been securely ligated and the hepatic oozing fairly well controlled by peritonization, gauze-tampons, etc., the operative wound is closed. Bleeding points in the abdominal wall are located, clamped and ligated without difficulty.

Postoperative bleeding from the cystic artery is to be recognized and controlled at once; if not checked, death may result from intraperitoneal hemorrhage. When drainage has been used, blood appears on the dressings and is detected early; in the absence of drainage, it escapes into the peritoneal cavity and is only revealed by the symptoms of acute anemia. This argument is used by the opponents of cholecystectomy without drainage. Drainage provides an outlet for extravasated blood, escaped bile and inflammatory exudates.

Oozing hemorrhage is more frequent and more dangerous after cholecystectomy than after other laparotomies. The oozing comes mainly from the bed of the gall-bladder; it often is copious and very difficult to arrest. When removing the gall-bladder, incise its peritoneal coat in such a manner as to form two flaps of serosa. Use these to peritonize the denuded gall-bladder bed; if necessary, fix an omental graft to the raw liver surface. The cellular tissue between the gall-bladder and the liver is at times very vascular. In removing the gall-bladder from its bed, minimize hemorrhage by sharp dissection of this tissue and the least amount of trauma to the liver. The oozing of blood may be checked by the pressure of pads soaked in hot salt solution. If the denuded area be extensive and the oozing difficult to control, a gauze-pad is spread over the denuded hepatic area and extends from the stump of the cystic duct well beyond the liver. This is done to stop oozing and serve as a drain. In many cases a cigarette drain suffices. After cholecystostomy and cholecystectomy, the gauze

packing is to be cautiously removed lest oozing recur from the gall-bladder bed and other denuded areas.

In the presence of severe obstructive jaundice, owing to the fact that the coagulation time of the blood is increased from three or four minutes to ten or twelve minutes or even longer, operations on the biliary tract are extra hazardous. Icteric patients, owing to their low general resistance and great liability to serious and, at times, fatal hemorrhage, should not be subjected to operations that are not immediately and absolutely necessary. The cholemic patient's great liability to hemorrhage must be foreseen; it necessitates appropriate and adequate pre- and postoperative care. Though cholecystectomy is incontestably the better operation as to the rapidity and completeness of cure, nevertheless, in cases of deep jaundice, it is better to do the minimal amount of operating and therefore to perform the lesser operation. Excision of the gall-bladder, if associated with much injury to the liver, may be followed by serious oozing from the denuded liver surface. Cholecystostomy permits the slow decompressing of the liver by drainage through the gall-bladder; later, after the jaundice has subsided, the hepatic function has improved and the patient's resistance increased, the other therapeutic indications may be met.[17] When in jaundiced patients indicated operations can be safely postponed, they should be adjourned. "If the jaundice is just beginning to show at the time the patient presents himself for treatment, it may be best to operate without delay, but if he comes when the jaundice is decreasing, it is best to wait until it has disappeared or is at a standstill."[15] Operation should not be too long delayed, as prolonged obstructive jaundice is a factor in the causation of biliary cirrhosis.

Before operating on cholemic patients, the coagulation time of the blood and its urea content are to be brought to approximately normal. It is also desirable that there be a normal total urinary output and an absence of albumin and casts. The existing hepato-renal insufficiency must be treated. Very frequently one must operate in the absence of ideal conditions.

Horse-serum, defibrinated blood, etc., administered subcutaneously, decrease the clotting time of the blood. All our jaundiced patients receive calcium lactate per mouth for several days before and after the operation. According to Lea and Vincent, the clotting time of blood is lowered by doses of calcium lactate taken by mouth each day for three days. In all cases of obstructive jaundice, our patients receive for three days preceding the operation a daily intravenous injection of 5 to 10 cc. of a 10 per cent solution of calcium chloride in redistilled water. Walters says that 5 cc. of a 10 per cent solution of calcium chloride in redistilled water, if given intravenously for three days immediately prior to operation, brings the clotting time within normal limits despite a most intense jaundice. Blood transfusions (whole blood is preferable[16]), before and after operation, are useful in emaciated, depressed, jaundiced patients, often enabling them to successfully undergo the ordeal of a serious surgical operation. Blood transfusions, though valuable, do not have in obstructive jaundice the specific effect that they have in hemorrhage of the new-born. By applying, both before and after operation, dry and moist heat to the hepatic region, the activity of the hepatic cells is increased. The general condition of jaundiced patients can be much improved by the ingestion of large amounts of water per mouth, of normal salt solution subcutaneously and of glucose and sodium bicarbonate solutions rectally. The patient's carbohydrate balance should also be reenforced.

Postoperative External Fistulae

All, intermittent or chronic, postoperative external fistulae of the biliary tract should be treated operatively if they be attended with discomfort and health impairment and do not show any tendency to spontaneous closure. According to nature of discharge, they are classified into mucous and biliary; according to site of origin or internal orifice, into gall-bladder, cystic, hepatic and common duct fistulae. Persisting sinuses due to careless technic, lost sponge, forgotten drain, etc., must be distinguished from fistulae.

External Mucous Fistulae

Cholecystostomy intentionally creates a biliary fistula. In the absence of obstruction or stenosis of either the cystic or common bile-duct, such operatively-created fistulae heal spontaneously after a shorter or longer period. If the cystic duct be completely obstructed, the fistula becomes mucous in type and closes and opens intermittently until the cause has been operatively removed. Spontaneous permanent closure rarely occurs in mucous fistulae resulting from:

(a) Impaction of a calculus at the junction of the gall-bladder and cystic duct;

(b) Stenosis of the cystic duct following calculous or other traumatic ulceration;

(c) Compression of this same duct by cicatricial tissue, traumatic or inflammatory in origin.

The requisites for spontaneous healing are obliteration of the cavity of the gall-bladder and conversion of the organ into a fibrous cord or mass.

The removal of the entire gall-bladder is, in the absence of any common duct obstruction, the best treatment for a mucous fistula. The cause, origin and source of the fistula and the fistula itself are suppressed by cholecystectomy. In acute and chronic cholecystitis, when stenosis of the cystic duct due to traumatic ulceration is present, the ablation of the gall-bladder prevents the development of mucous fistulae. If the cystic duct and the gall-bladder show but slight alteration, it may suffice to remove the impacted stone. As a rule, this calculus is not of new formation; it was present and overlooked at the time of the first operation. If the common duct be the seat of irremovable obstruction (partial or complete), the cystic duct and the gall-bladder are cleared of their contents and a cholecyst-enterostomy is performed. Of the three procedures just mentioned, ablation of the organ is the operation of election for the cure of mucous fistulae of the gall-bladder. Enterocholecystic anastomosis is difficult of execution; it is a measure of last resort.

External Biliary Fistulae

A safe and successful cholecystectomy necessitates an adequate exposure of the operative field and a careful exploration of the bile-ducts. If, at the time of the excision of the gall-bladder, calculi present in the common duct are overlooked, a biliary fistula not uncommonly results. Biliary fistulae due to calculous occlusion of the common bile-duct, if the duct be otherwise normal or almost normal, close upon removal of the occluding calculus or calculi. Biliary fistulae due to compression of the common duct by cicatricial tissue are cured by the removal of the compressing agent. An operator, unskilled and inexperienced in biliary surgery and possessing only a superficial knowledge of the many anatomical variations in the mode of union, length and course of the bile-ducts, is very liable to ligate, crush, cut or resect the hepatic or common duct. An incision ample in length permits identification and the palpation of the ducts and minimizes their liability to injury.

(Continued on page 283)

A Plan of Feeding in Typhoid Fever

EDWARD E. CORNWALL, M.D., F.A.C.P.,
Brooklyn, N. Y.

In general it may be said that the acute infectious diseases with fever present indications for a diet which favors the functional depression of the digestive and eliminative organs, which is strongly alkaline to offset the acidic tendency of fever, which is of relatively high caloric value to "feed the fever (for fever is regularly a part of Nature's curative plan in the presence of bacterial invasion, and should be maintained with a minimum of tissue waste), and whose quality and quantity are determined by the circumstances of the case.

Typhoid fever, because it lasts for a considerable time, rarely less than three or four weeks, presents special indications for superalimentation during the febrile period, and also during the period of convalescence. Regarding the degree of the superalimentation and the character of the articles of food which should be given in typhoid fever, differences of opinion exist. I am inclined to conservatism on both points, having found that an amount of superalimentation much less than that which has been recommended by some of the advocates of high caloric feeding in typhoid is sufficient to insure comparatively favorable results. The inclusion of solid food in the diet during the febrile period seems to me inadvisable as a general rule; in special cases, however, certain semisolid articles may be allowable.

Although it is conceded that superalimentation is fundamentally indicated in typhoid fever, it can not be universally applied. In many cases it is contraindicated by occasional conditions or is impossible of application. The following conditions oppose superalimentation and may call for modification of the diet in other respects than as regards its quantity.

Anorexia may be so great that the patient, even with persistent coaxing and frequent offering of food, can not be induced to take the required amount or even a considerable portion of it. This may be an indication than the body can not utilize much food, or it may be an indication of toxemic depression of cerebral centers. It is usually proper to tempt the enfeebled appetite as much as possible within the limited range of generally permissible menus, and even occasionally to go outside those limits to a certain extent.

Gastric irritability may compel a reduction in the amount of food taken and may call for modification of the diet, such as partial predigestion of the milk, or even temporary restriction of the diet to the fruit juice preparations and the cereal decoctions.

The state of the intestines as regards ulceration, catarrhal inflammation, diarrhea, tympamites, erosion of blood vessels and perforation of the intestinal wall, may present special and urgent indications for modifying the diet. Diarrhea, if excessive, calls for temporary exclusion of milk from the diet and restriction to barley or rice water and alkaline salts, with or without fruit juices.

Tympanites calls for temporary exclusion of milk from the diet, and in severe cases, for restriction of the diet to water alone or water and salts. I have not so often observed tympanites in patients fed according to the plan about to be described, which limits the range of food stuffs during the febrile period to modified milk, cereal decoctions, strained fresh fruit juices, milk sugar, salts and water, with occasional addition of selected "soft" articles, as I did formerly when I included in my regular typhoid dietary, egg albumin, baked custard and animal broths.

Hemorrhage from the intestine, according to its degree, calls for stoppage of all food, or its great restriction as recommended for diarrhea.

Perforation of the intestine calls for immediate stoppage of all food.

Complications in the lungs do not necessarily call for special modification of the diet, but myocardial degeneration accentuates the indications from the alimentary tract, and it may be an indication for restriction of the amount of fluid taken.

In the period of transition from the febrile to the frankly convalescent stage special consideration should be given to the indication for superalimentation, not now to "feed the fever," but to facilitate the repair of the wasted tissues; but it should always be given with due regard to the limitations of the organism in respect to utilizing excess food; which limitations regularly grow less as convalescence advances, so that by the second week after defervescence the patient is usually able to utilize a large excess of food and to take a mixed diet.

For testing the ability of the patient to manage animal food, I am accustomed, near the end of the first week after defervescence, to give a sandwich of scraped beef on thin toast, lightly cooked; if no rise of temperature follows, it is inferred that the patient can manage the special products of bacterial activity which result from the ingestion of animal flesh.

For a considerable period after defervescence the freshly healed ulcers in the intestine present special indications for caution in regard to the admission of indigestible residue to the diet; and the incompletely recovered from functional depression of the liver and kidneys present special indications for conservatism in the allowance of animal flesh and the sugar in the diet.

The following dietetic prescriptions for typhoid fever are devised to meet the indications as suggested in the foregoing remarks. They are intended for the average case. To meet the indications presented by complications, as gastric irritability, diarrha, tympanites, intestinal hemorrhage and perforation, special diets may be prescribed in accordance with the foregoing suggestions.

Typhoid Fever Basic Diet

(Protein, 50 gm., Fat, 50 gm.; Carbohydrate, 210 gm.; Water, 3000 gm.; Calories, 1500.)

At 6 a. m. The following mixture: Milk, 150 gm. (5 oz.); barley water, oatmeal water, strained oatmeal gruel, or similar specified cereal decoction, 90 gm. (3 oz.).

At 7 a. m. The following mixture: Strained juice of orange or grapefruit, 90 gm. (3 oz.); Lactose, 15 gm. (½ oz.); water, 150 gm. (5 oz.).

At 8 a. m. The same as at 6 a. m.
At 10 a. m. The same as at 6 a. m.
At 11 a. m. The same as at 7 a. m.
At 12 m. The same as at 6 a. m.
At 2 p. m. The same as at 6 a. m.
At 4 p. m. The same as at 6 a. m.
At 5 p. m. The same as at 7 a. m.
At 6 p. m. The same as at 6 a. m.
At 8 p. m. The same as at 6 a. m.
At 9 p. m. The same as at 7 a. m.
At 10 p. m. The same as at 6 a. m.

Typhoid Fever Plus Diet

(Protein, 60 gm.; Fat, 60 gm.; Carbohydrate, 235 gm.; Water, 3480 gm.; calories, 1750.)

The same as *Typhoid Fever Basic Diet* with additional feedings of the milk mixture, 240 gm. (8 oz.), at midnight and at 4 a. m.

Typhoid Fever Varied Diet

(Protein, 75 gm.; Fat, 75 gm.; Carbohydrate, 210 gm.; Water, 3000 gm.; Calories, 1820.)

The same as *Typhoid Fever Basic Diet* with substitution for the milk mixture in all or a specified number of the feedings of that mixture, of whole milk, 240 gm. (8 oz.), or an equal amount of any of the following modifications of milk: Lacacidized milk, peptonized milk, mixture of milk, four parts, cream, one part; mixture of the milk and barley water mixture above described, four parts, cream, one part; mixture of the milk and barley water mixture with 20 gm., (⅔ oz.), of a predigested cereal food dissolved in it; strained milk soups, made without meat stock, viz., cream of carrot, lettuce, asparagus, spinach, onion, potato, oysterplant.

Typhoid Fever Full Diet

(Protein, 90 gm.; Fat, 90 gm.; Carbohydrate, 235 gm.; Water, 3480 gm.; Calories, 2120.)

The same as *Typhoid Fever Varied Diet* with additional feedings of the milk of milk modifications, 240 gm. (8 oz.), at midnight and 4 a. m.

Increased number of calories may be obtained by increasing the number of the feedings with the cream mixture or the cream in that mixture, and by increasing the lactose in the fruit juice mixture.

In some cases advantage may be found in diminishing the number of the milk feedings and increasing those of the fruit juice mixture, and vice versa.

In place of specified milk feedings the following may be given in selected cases: Oatmeal jelly, 180 gm. (6 oz.); junket, 180 gm. (6 oz.); or blanc mange made with Irish moss, 180 gm. (6 oz.); with or without cream, 30-60 gm. (1 or 2 oz.).

Tea or coffee in clear infusion may be used to dilute the milk in a specified number of the milk feedings, in some cases; and the strained fruit juice may be used for the same purpose, especially in cases where it is desired to limit the fluid intake. I have long been accustomed to prescribe a mixture of milk and juice of orange, grapefruit or pineapple; the mixture is palatable and digestible if well stirred, and especially if the fruit juice is sufficient in quantity to curdle the milk in fine flakes. A small amount of claret wine makes a valuable ingredient of a milk mixture, especially when it is desired to change the taste of the milk as well as its color.

Water may be allowed in addition to that in the diet if no contraindications exist.

Very rarely animal broths may be used in small quantity as appetizers in cases with severe anorexia.

Usually between the fifth and tenth day after defervescence the following diets may be given.

Typhoid Fever Transitional Diet

(Protein, 80 gm., Fat, 90 gm., Carbohydrate, 300 gm., Calories, 2330).

At 6 a. m. Milk or any of the milk modifications previously described, 240 gm., (8 oz.).

At 7 a. m. The following mixture: Strained juice of orange, grapefruit, or other specified fresh fruit, 90 gm., (3 oz.); lactose, 20 gm., (⅔ oz.); water, 180 gm., (6 oz.).

At 8 a. m. Boiled rice, cream of wheat, farina, or other specified moist cooked cereal, 240 gm., (8 oz.); cream, 60 gm., (2 oz.).

At 10 a. m. The same as at 6 a. m.
At 11 a. m. The same as at 7 a. m.
At 12 m. The same as at 8 a. m.
At 2 p. m. The same as at 6 a. m.
At 4 p. m. The same as at 6 a. m.
At 5 p. m. The same as at 7 a. m.
At 6 p. m. The same as at 8 a. m.
At 8 p. m. The same as at 6 a. m.
At 10 p. m. The same as at 6 a. m.

Typhoid Fever Transitional Plus Diet

(Protein, 95 gm., Fat, 105 gm., Carbohydrate, 325 gm., Calories, 2650).

The same as *Typhoid Fever Transitional Diet* with additional feedings of milk or the milk modifications previously, 240 gm., (8 oz.), at midnight and 4 a. m.

Typhoid Fever Transitional Extra Diet

(Protein, 90 gm., Fat, 95 gm., Carbohydrate, 325 gm., Calories, 2500).

The same as *Typhoid Fever Transitional Diet* with addition of toast, 45 gm., (1½ oz.), and egg, soft boiled or poached, one, to the feeding at 12 m.

Typhoid Fever Transitional Mixed Diet

(Protein, 95 gm., Fat, 95 gm., Carbohydrate, 325 gm., Calories, 2520).

The same as *Typhoid Fever Transitional Diet* with addition of scraped beef, 45 gm., (1½ oz.), lightly cooked, with toast, 45 gm., (1½ oz.) to the feeding at 8 a. m.

The combination of these transitional diets, viz., *Typhoid Fever Transitional Plus Extra Mixed Diet*, supplies protein, 120 grams, fat, 115 grams, carbohydrate, 375 grams, and calories, 3000.

Typhoid Fever Transitional Mixed Diet can usually be given by the ninth or tenth day after defervescence in favorable cases, to test the tolerance of the organism for animal flesh. If no reaction, as shown by a rise of temperature or other disturbance, follows the addition of the scraped beef to the diet, the patient may be considered ready for a mixed convalescent diet, and such a diet can usually be given near the end of the second week after defervescence.

Typhoid Fever Convalescent Mixed Diet

(Protein, 135 gm., Fat, 115 gm., Carbohydrate, 350 gm., Calories, 3000).

Breakfast

Orange, grapefruit, or other specified fresh or cooked fruit, 180 gm., (6 oz.).

Eggs, soft boiled or poached, two.

Bread, twenty-four hours old, or toast, 60 gm., (2 oz.).

Butter, 15 gm., (½ oz.).

Cream of wheat, farina, boiled rice, or other specified moist cooked cereal, 240 gm., (8 oz.).

Cream, 60 gm., (2 oz.).

Milk or any of the milk modifications previously described, 240 gm., (8 oz.).

10 a. m.

Milk as at breakfast, 240 gm., (8 oz.).

Dinner

Milk soup, viz., cream of celery, asparagus, carrot, corn, potato, spinnach, oyster plant, onion, tomato; or milk as at breakfast, 240 gm., (8 oz.).

Boiled, broiled or roasted fresh beef, lamb, chicken or fish, 90 gm., (3 oz.).

Bread as at breakfast, 60 gm., (2 oz.).

Butter, 15 gm., (½ oz.)

Boiled macaroni, spaghetti or rice, 120 gm., (4 oz.).

Potato, baked, minus skin, 120 gm., (4 oz.).

4 p. m.

Milk as at breakfast, 240 gm., (8 oz.).

(Concluded on page 282)

Strongyloides Stercoralis*

WILLIAM C. ALLISON, M.B. (Tor),
White Fish, Mont.

Strongyloides was discovered in 1876 by Normand, and called Anguillula Intestinalis. This name was given because of its resemblance to an eel, "anguillula" meaning "little eel;" it was later changed to Strongyloides from the Greek root "strongyl" meaning "round." The term "stercoralis" referred to its presence in the feces, and "intestinalis" to its habitat in the intestine.

It is not frequently discussed in literature; and in text it receives but scant mention. Steven's[1] reads, "Infection with Strongyloides Stercoralis is found especially in tropical and semi-tropical countries.

The parasitic adult worms (2-3mm long) are probably parthenogenetic females living in the intestinal canal, where they produce numerous ova, which hatch out before leaving the bowel, appearing in the feces as rhabditiform embryo (see Fig. 1 and 2 of case No. 4.[2] The latter, which are transparent, actively motile parasites about 0.3mm. long by 0.02mm. broad with blunt head and pointed tail, may develop directly into filiform embryos or into free living, sexually differentiated adults. The filiform embryos enter man through the mouth or skin and in the intestine develop into the parthenogenetic mother worm. The parasite may prove harmless or it may set up intestinal catarrh and diarrhoea, which is usually accompanied by pain or fever.

The diagnosis is made by finding the rhabditiform embryos in the stools. The treatment is that of catarrhal enteritis with the administration of thymol at intervals as in uncinariasis (hookworm)."

Osler[3] stated that it is common in the diarrhoea of Cochin-China; that it was found in 3 per cent of the medical patients and 20 to 30 per cent of the insane patients on the Isthmus of Panama; and that in large numbers it may cause a mild diarrhoea and a moderate anemia.

Stitt[4] names two separate forms, Anguillula Intestinales and Anguillula Stercoralis. The rhabditiform embryos found in the stool develop, in the cold to the filiform embryos known as Anguillula Intestinalis and directly infective to man, and in the heat to the free living, sexual forms known as Anguillula Stercoralis, which copulate and produce the infective filariform embryo.

These parasites resemble hookworm very greatly and are differentiated in two ways, first, by the fact that in fresh stools, the ova of hookworm are found, while the larvae of strongyloides only are present. The ova are always hatched out in the intestine (except after violent purgation or diarrhoea), in fact Price[5] states that they sometimes even hatch in the body of the gravid female, so that embryos only are found in the stools. Hookworm ova do not hatch for at least 12 to 24 hours after the stool has been passed. Second, in feces that have stood long enough for the hookworm ova to have hatched, the embryos of strongyloides are differentiated by the depth of the mouth cavity. In hookworm the depth of the cavity is equal to the diameter of the larva at the posterior end of the cavity, in strongyloides it is half as deep as this diameter.

The embryos are actively motile, and this motility should be discerned to distinguish them from certain vegetable hairs (namely that of the peach skin), commonly found in the feces and which they greatly resemble. They are found by macerating the stool in warm saline and examining on a warm stage. In a solid stool, they are best found by making a depression in the fecal mass, filling it with warm, normal saline, and incubating at 39 deg. C. for 12 to 24 hours. The larvae collect in the saline and may be found by examining a drop of this fluid under the microscope.

In the intestine, the infecting filiform larvae grows into the parthenogenetic adult, which burrows into the intestinal mucosa and deposits the ova. These hatch out, and the larvae make their way into the intestinal canal.

It is the purpose of this paper, first, to show that this parasite is not rare; second, to cite four cases found within two weeks, and to give the physical and pathological findings of these four individuals whose ages range from 30 to 65 years; third, to offer a few suggestions that might aid in the management and diagnosis of the infestation.

Larva of Strongyloides Intestinalis

The Cases

Case No. 1: B. J. H. Hosp. No. 6668, age 55, born in Germany, lived in the Philippine Islands two years. "Dysentery for 30 days in 1900." "Malaria for 30 days in 1900." Intestinal influenza in Franklin Hospital, San Francisco, for 3 weeks in 1918."

He was admitted here March 16, 1925, complaining of increased frequency of micturition. Physical examination revealed leukoplakia buccalis and lingualis; increased resistance of the prostate on palpation; and tenderness over sigmoid and in right groin. There were no other abnormal physical findings.

Laboratory Findings:** Urine: albumin, faint trace; few narrow hyaline casts, clusters of pus cells and a few red blood cells.

Blood: Red cells, 4,050,000; white cells, 7,600; hemoglobin, 70%; polymorphonuclea neutrophiles, 77%; lymphocytes, 15%; mononuclear neutrophiles, 6%; *eosinophiles, 6%*; myelocytes, 1%.

* From Department of Internal Medicine, Service of John W. Shuman National Soldier's Hospital, Los Angeles.

** The laboratory data of these cases was worked out by Elizabeth Ward, M.D.

Feces: Larvae of Stronglyoides Intestinalis.

Case No. 2: O. B. N. Hosp. No. 6760, age 37, with A. E. F., 1918-1919. "Appendectomy, 1909; amebic colitis, 1918; 3 weeks' duration, returned to duty but continued medication. Second attack amebic colitis, 1922, in Virginia Mason Hospital, Seattle, Washington." Later report confirmed by personal communication from that hospital. Discharged from army, 1919, as "physically sound."

Admitted to this hospital, March 18, 1925, complaining of lassitude, alternating diarrhea and constipation, abdominal pain and discomfort, muscular and joint pain."

Physical Examination: Pale, 20 pounds underweight, 3 dead teeth, thyroid 2 plus; tachycardia; cold hands with moist palms; tremor 2 plus; epitrochlear cervical, axillary and inguinal glands enlarged 2 plus; funnel breast; Harrison's groove; appendiceal scar adherent; scar on penis; much water in stomach after four hours; abdomen, much fullness; caecum, sigmoid and colon, tender. Knee-jerk present if reinforced.

Laboratory Findings: Urine: specific gravity, 1015; albumin and sugar, negative. Blood: Red cells, 3,900,000; white blood cells, 6,000; hemoglobin, 78%; polymorphonuclear neutrophiles, 6%; lymphocytes, 19%; mononuclears, 37%; transitionals, 1%; eosinophiles, *11%*. X-Ray G. I. tract by R. C. Shawhan, "evidence of duodenal ulcer, adhesions, and caecum displaced to left." Feces: larvae of stronglyoides intestinalis, but no amebae.

Case No. 3: M. E. P., age 60, Hosp. No. 6724. Stated his "mother and wife died of cancer." Born in and never lived outside U. S. A. "Scarlet fever in 1883; gonorrhea in 1886; typhoid in 1899; pleurisy and tonsillitis in 1905; and influenza in 1924."

Admitted March 11, 1925, complaining of "muscular and joint pain; abdominal pain and discomfort; no diarrhea; poor appetite."

Physical Examination: Appears acutely ill; complains of pain in joints and severe headache; abdomen distended; spleen, much enlarged, but not painful; extremities, painful.

Laboratory Findings: Urine: specific gravity, 1008; albumin and sugar negative. Blood: red blood cells, 4,780,000; white blood cells, 8,000; hemoglobin, 78%; polymorphonuclear neutrophiles, 60%; lymphocytes, 22%; transitionals, 8%; eosinophiles, 4%; myelocytes, 1%. Feces: larvae stronglyoides intestinalis.

Case No. 4: S. I., age 37, Hosp. No. 6039. Born in and never outside of U. S. A. "Always healthy; mumps, 1918; bronchitis, stomach trouble, dysentery in service; tonsillectomy, 1919; discharged, 1919, physical condition good."

Admitted December 12, 1924, complaining of "discomfort in gastric region since discharge from army, aggravated last 13 months. Dull feeling of pressure in upper abdomen increased on exertion and excitement; no relation to food; relieved by recumbent position and soda. Bowels, regular; appetite poor; has had alternating diarrhea and constipation, marked lassitude; nervousness; undue fatigue; aching muscles; 23 pounds underweight.

Physical Examination: Skin sallow; lungs, harsh breathing over upper chest; occasional ronchi in upper left lung; right chest slightly drooping; with marked depression above clavicle. Otherwise negative.

Laboratory Findings: Urine: specific gravity, 1028; albumin and sugar negative; moderate number of pus cells; many bacteria; few squamous epithelial cells.

Gastric Analysis: 97 c.c. brown fluid-sediment; lactic acid, blood, and microscopical, negative; free hydrochloric, 37%; total acid, 52 degrees; combined acid, 12 degrees.

Blood: Red cells, 3,920,000; white blood cells, 76,000; hemoglobin, 70%; polymorphonuclear neutrophiles, 64%; eosinophiles, *13%*; lymphocytes, 20%; mononuclears, 2%; transitionals, 1%.

X-ray Findings: "Evidence of duodenal ulcer, enteroptosis, caecal ptosis, hepatic angulation, colonic ptosis, and chronic appendicitis."

Feces: Larvae of strongyloides intestinalis found, but no ameba, but did show vegetable cells resembling ameba. "Ameba histolytica" reported by Veterans Bureau of L. A., October, 1924.

Summary

It can be readily seen (1) that strongyloidis is not rare in the U. S. A. (2) An analysis of these four cases shows the presence of:

A. Eosiniphilia.
B. Mild secondary anaemia.
C. Abdominal discomfort.
D. Muscular pain.
E. Lassitude.

Note: In these cases of infestation by strongyloides fundus, blood chemistry, urine and Wasserman examinations were made and no noteworthy pathologic findings found.

These cases were all successfully treated with thymol and magnesium sulphate. After the treatment, no larvae or ova were found in the feces. The general condition of the patients was much improved. Such symtoms as remained were due to their concurrent diseases.

BIBLIOGRAPHY

1. Practice of Medicine, 1922, P. 312.
2. Photos by R. C. Shawhan, M.D.
3. Principles and Practice of Medicine, 1920, P. 315.
4. Jour. A. M. A., Sept. 12, 1903, P. 651.
5. Practical Bacteriology, Blood Work, and Animal Parasitology, 192 pp. 346-7

Feeding Typhoid Fever

(Concluded from page 280)

Supper

Milk, 480 gm., (16 oz.), with bread as at breakfast, 120 gm., (4 oz.); or cream or cottage cheese, 90 gm., (3 oz.), with bread as at breakfast, 120 gm., (4 oz.), and butter, 22 gm., (¾ oz.).

Fruit as at breakfast, 180 gm., (6 oz.).

Typhoid Fever Convalescent Plus Mixed Diet

(Protein, 140 gm., Fat, 125 gm., Carbohydrate, 360 gm., Calories, 3150).

The same as *Typhoid Fever Convalescent Mixed Diet* with addition to dinner of cooked spinach, string beans, carrot, squash or other specified green vegetables, 180 gm., (6 oz.), and raw lettuce, endive, tomato, 120 gm., (4 oz.), with olive oil, 10 gm., (⅓ oz.).

Simple desserts, as tapioca, rice and custard puddings, and ice cream may often be allowed; and also coffee and tea.

The above convalescent diets may be made lactovegetarian or approximately so by substituting for the animal flesh and eggs, or for the former alone, equivalent amounts of cream or cottage cheese or American, Swiss or Edam cheese, on every day or on specified days.

During the convalescent period and for some time after, the diet should be so regulated as to safeguard against indigestion and excessive mechanical irritation of the intestinal walls; the rough vegetables should in particular be excluded from the diet.

1218 Pacific St.

Complications in Gall Bladder Inflammations

(Continued from page 278)

The cystic duct must be seen when ligated. The operator must see that he is tying it and nothing else. The vast majority of duct injuries are due to errors in technic or forgetfulness of the anomalies of this region. Bile-duct injuries are of more frequent occurrence if the topography of the biliary region is altered and distorted by adhesions.

In removing the gall-bladder, ligate and divide the cystic duct close to the choledochus and be careul not to traumatize the latter. In difficult cases, it is better to leave a stump of the cystic duct than to run the risk of injuring the common duct. Dilatation of the stump of the cystic duct is uncommon and most always of negligible clinical significance. Some biliary fistulae have followed to low ligation of the cystic duct. Incisions giving inadequate exposure of the operative field are responsible, in part, for injuries to the bile-ducts. "Working in the dark" begets poorer results and a higher percentage of complications. Under the most favorable conditions, the operative field is a limited one and important structures lie in such close proximity that accidents are not uncommon. Duct injuries are less common since retrograde cholecystectomy has come into more general use.

All bile-duct injuries should be repaired immediately, that is, at the time of infliction; if overlooked or improperly repaired, a biliary fistula or a biliary peritonitis follows. Spontaneous cure of serious bile-duct injuries is so infrequent that its occurrence, for practical purposes, can be disregarded.

The indications for operation are determined by the patient's general condition, the age of the fistula, the amount of discharge and the probability or non-probability of spontaneous permanent closure. The normal flow of bile into the intestines must be reestablished; there must be a permanent passage-way for the bile from liver to intestines. Permanent biliary fistulae that discharge profusely entail loss of appetite, emaciation and, in time, death. Reconstructive bile-duct operations are failures when the line of suture yields or when a secondary stenosis or on ascending angiocholitis develops. In irreparable common duct injuries, the anastomosis of the gall-bladder to the stomach, duodenum, jejunum or colon is indicated. This indication cannot be met if the gall-bladder has previously been removed or if it be the seat of degenerative changes unfitting it for anastomosis. The anastomosis to the colon is a measure of necessity, performed only if the patient's condition be precarious or when the anatomical conditions present do not permit prolonged operative maneuvers. The saving of the bile to the organism improves digestion and avoids malnutrition. The physico-chemical functions of the bile are of value in intestinal digestion.

Slight parietal injuries of the hepatic or common duct are to be sutured. Complete or almost complete division of either of these conduits may be repaired by circular sature of the divided ends with or without mechanical aids, such as a rubber-tube, glass-tube, etc., allowed to emerge through a separate opening in the duodenum. The line of union is to be reinforced with omentum. In complete bile-duct division, it is difficult to find the proximal and, especially, the distal end, and it is still more difficult to successfully suture the ends to one another. Reconstruction of the bile passages is always a formidable procedure, even to the most expert technicians. The extent, location and nature of the duct injury, the associated pathology (dense, firm adhesions not easily separated, etc.) and the patient's general condition must all be considered so as to choose the operative technic most appropriate for the case at hand. When, owing to the length of the damaged area, the two ends of the duct cannot be apposed, the defect is to be bridged by inserting one end of the rubber-tube in the upper segment and then passing the other end through the lower segment into the duodenum; omentum or other tissue is sewed over the exposed portion of the tube and reconstructed duct.[19] New canals built by the aid of inverted veins, fascial, omental or other tissue do not give lasting satisfactory results. These newly created ducts, not being mucous-lined and not being provided with a submucosa, invariably contract. If the distal end of the divided duct cannot be found or if it be unfit (too short, too friable, etc.) for end-to-end saturing, hepatico-duodenostomy,[18] the implantation of the proximal end of the hepatic duct into the duodenum and, hepatico-gastrostomy, the implantation of the proximal end of the hepatic duct into the stomach, are practised. Both of these operations can be done by direct suture upon a rubber-tube.

Postoperative Biliary Peritonitis

Circumscribed or diffuse postoperative biliary peritonitis is due, partly or wholly, to the escape of bile into the peritoneal cavity. When generalized, it is a serious complication. It follows the soiling during the operation of the operative field with gall-bladder and bile-duct contents or the leakage after the operation of bile into the peritoneal cavity. The site of leakage may be an oozing liver surface (gall-bladder bed), damaged or cut normal or anomalous bile-ducts, an improperly or insecurely ligated cystic duct whose ligatures have slipped, been torn off or absorbed prematurely. If the cystic duct be divided and ligated too close to the choledochus, the bile pressure may force off the ligatures; bile then escapes into the peritoneal cavity and biliary peritonitis results.

The prophylactic treatment of biliary peritonitis consists in the careful avoidance and successful removal of its etiological factors. By the aid of abdominal pads, the operative field is carefully walled off from the general peritoneal cavity, thus minimizing, at times, preventing the contamination of the latter by the escape of infected or non-infected bile. Before closing the operative wound see that the cytsic duct is securely tied by two ligatures and that all bile-duct injuries are repaired. Fatalities due to overlooked duct injuries are not uncommon.

General peritonitis is always a possibility when drainage is omitted. For several days after cholecystectomy, oozing of serum, blood or bile occurs from the gall-bladder bed. Drainage prevents the accumulation of effusion in the peritoneal cavity and provides for the escape of exudates. In practically all difficult operations on the biliary tract, I drain the subhepatic space and the renal well. After empyema, rupture of the gall-bladder and in cases in which hemostasis is not perfect, drainage for a few days is imperative. Healing is not unfavorably influenced by drainage and undesirable sequelae to be feared. Leakage is more frequent when the gall-bladder is removed from above downwards.[20] Walker states, "This is a further argument for careful isolation and ligature of the cystic duct and the removal of the gall-bladder from below." In many cases, it suffices to place a soft rubber tube or cigarette drain along the gall-bladder bed and to make it project through a stab wound in the loin or through a stab incision an inch or two to the right of the operative wound which is then closed. Experience has taught us that a stiff

tube may cause much distress and a soft rubber one, actual danger through kinking and blockage.

The prophylaxis of biliary peritonitis is all important. This is due to the fact that the treatment of this affection, like that of other forms of acute peritonitis, is very unsatisfactory. The indications are to evacuate all bile collections, to check the further escape of bile into the peritoneal cavity and to accelerate the elimination of bile-salts from the circulation. To arrest the escape of bile, it is necessary to expose and repair the injured bile-duct and to drain the biliary region. Hypodermoclysis and proctoclysis are employed to combat the existing toxemia. These patients are very sick and unable to withstand any lengthy and complicated operative maneuvers. Symptoms are met as they arise by the usual measures.

BIBLIOGRAPHY

1. Mayo, C. H.: The Relative Merits of Cholecystostomy and Cholecystectomy. Surg., Gynec. and Obst., 1917, xxiv, 281.
2. Mayo, C. H.: Jaundice and Its Surgical Significance. Collected Papers of the Mayo Clinics, 1919, xi, 116
3. Judd and Lyons: The Mortality Following Operations on the Liver, Pancreas, and Biliary Passages—A Statistical Study. Collected Papers of the Mayo Clinic and the Mayo Foundation, 1923, xv, 217.
4. Martin: Recent Controversial Questions in Gall-Bladder Surgery. Am. Surg., 1924, lxxix, 424.
5. Heineck, A. P.: The Surgical Indications of Inflammatory Diseases of the Gall-Bladder. Chicago Med. Rec., 1926, xlviii, 65.
6. Bunnell: Surgery of the Gall-Bladder. Calif. State J. M., 1925, xxi, 287, 330.
7. Moore: A Comparative Study of the End-Results of Cholecystostomy and Cholecystectomy. Surg., Gynec. & Obst., 1921, xxxiii, 41.
8. Graham: Surgical Therapy and Net Results in Gall-Bladder Disease. Canad. M. A. J., 1922, xii, 767.
9. Ballin & Saltzstein: Pancreatic Cyst Following Cholecystectomy. J.A.M.A., 1921, lxxvi, 2, 1484.
10. Davis: What Constitutes a Good Result in Gall-Bladder Surgery? Tr. West. Surg. Ass., 1918, xxviii, 205.
11. Naegeli: Die klinische Bedeutung und Bewertung der abdominellen Verwachsungen. Deutsche Ztschr. f. Chir., 1921, clxiii, 408.
12. Carroll: Complications Following Surgery of the Gall Bladder and Bile Ducts. Minnesota Med., 1922, v, 307.
13. Eisendraht: Operative Injury of the Common and Hepatic Bile-Ducts. Surg., Gynec. & Obst., 1920, xxxi, 1.
v.
14. Bourgery et Jacob: Traité complet de l'anatomie de l'homme, 1839, v.
15. Judd: Problems in Surgery of the Gall bladder and of the Bile Ducts. J. Kansas M. Soc., 1921, xxi, 185-189.
16. Jones: Blood Transfusion in Pernicious Anemia. J.A.M.A., 1926, p. 1673.
17. Crile: Some Special Points in the Surgery of the Gallbladder. Med. Rec., N. Y., 1920, xcvii, 584.
18. Balfour, D. C.: The Technic of Hepaticoduodenostomy, with Some Notes on Reconstructive Surgery of the Biliary Ducts. Ann. Surg., 1921, lxxiii, 345.
19. Lecène et Gaudart: La réparation de la voie biliaire. Journal de Chirurgie, 1922, xx, 237.
20. Walker: Complications Following Cholecystectomy, Boston M. & S. J., 1921, clxxv, 52.

Results of the Mohonk Cancer Symposium

The Symposium on Cancer Control held at Lake Mohonk, N. Y., September 20-24, under the auspices at the American Society for the Control of Cancer, was for the purpose of considering the prevention and cure of cancer from a practical standpoint, and to express in concise language the fundamental groundwork of fact and opinion upon which the collective effort now being made in the United States and other countries for the control of cancer should be continued and extended.

It was believed that there were many things which physicians and surgeons could agree upon, and that if these agreements could be expressed in simple, concise language the results would be of much value.

The meeting was brought about by the American Society for the Control of Cancer and was first announced many months ago.

Among the noted European specialists present were: Dr. Raffaele Bastianelli, Professor of Surgery at the University of Rome; Dr. Leon Berard, Professor of Surgery at the University of Lyons; Sir John Bland-Sutton, Bt., President of the Royal College of Surgeons, Vice-Chairman of the British Empire Cancer Campaign; Dr. Ferdinand Blumenthal, Professor of Internal Medicine at the University of Berlin; Dr. William deVries, President of the Netherlands Cancer Institute, Amsterdam, Professor of Pathologic Anatomy at the University of Amsterdam; Dr. Henri Hartmann, Professor of Surgery at the University of Paris; Dr. J. Maisin, Professor at the University of Louvain; Dr. James A. Murray, Director of the Imperial Cancer Research Fund, London; Dr. Claude Regaud, Director of the Pasteur Laboratory of the Radium Institute, Paris; Dr. Albert Reverdin, General Secretary to the Anti-Cancer Center of Geneva.

Among the Americans were: Dr. Howard Canning Taylor, Professor of Clinical Gynecology at Columbia, President; Dr. Francis Carter Wood, Director of the Institute for Cancer Research, Columbia, Vice-President, and Dr. George A. Soper, Managing Director, of the American Society for the Control of Cancer; Dr. Robert B. Greenough, member of the Harvard Cancer Commission and Director of the Huntington Memorial Hospital, Boston; Dr. James Ewing, Professor of Pathology, Cornell Medical College, and Director of the Memorial Hospital, New York; Dr. Charles H. Mayo, Rochester, Minnesota; Dr. Joseph Colt Bloodgood, Associate Professor of Clinical Surgery at Johns Hopkins University; Dr. William H. Welch, Director of the Institute of Hygiene and Public Health, Johns Hopkins University; Dr. Burton J. Lee, Dr. George H. Semken, Dr. Willy Meyer, and Dr. Isaac Levin of New York, Dr. John Shelton Horsley of Richmond, Dr. Alson R. Kilgore of San Francisco, Dr. Alexander Primrose of Canada, Miss Maud Slye of Chicago, and Dr. Erwin Smith of Washington.

The program consisted of twenty-seven carefully prepared papers covering practically every phase of the cancer problem. These were read and discussed. Differences of opinion with regard to some of the scientific and theoretical details underlying the present conception of cancer and its causation existed, but when it came to discussing the large and important steps to be taken for the better control of the disease, the meeting was unanimous.

Two resolutions were passed, after careful consideration by a committee and discussion before the whole gathering. One was a proposition to form an international federation in order to bring about more meetings like the Mohonk symposium and publish in at least three languages an index and abstracts of all papers on cancer which appeared anywhere in the world. By resolution this proposition was referred to the many national societies against cancer, with a recommendation that the plan, or one similar to it, be adopted, if, upon further study, means could be found for deferring the cost of the work.

The second resolution was the adoption of a statement of the facts and opinions upon which campaigns against cancer should be conducted. (Note: Statement enclosed.)

At a dinner to the foreign guests held in New York at the end of the symposium, and attended by about 250 physicians, Sir John Bland-Sutton declared that the meeting would make medical history. He spoke in part as follows:

"We have had a very strenuous week, and I will say in all my experience in congresses and association meetings I have never been to one in which there was a more complete absence of acrimony and so much work was accomplished. The zeal which led so many investigators, surgeons and physicians to cross the Atlantic and come from all parts of the American Continent is creditable, and the earnestness they displayed in the conference is beyond all praise. In fact, they were so earnest in their discussions that they even continued them on the hotel porches and in the dining room. This meeting is certain to make medical history."

Dr. Wendell C. Phillips, President of the American Medical Association, said:

"This meeting has done much to stabilize the knowledge that we have of cancer, and it will clarify the opinions, not only of medical men, but of the public. In this respect it will accomplish what no other meeting has done before. It is a great thing to preach up the right rather than to preach down the wrong, and those who have been at Mohonk have been preaching up the right. They have not been making any attacks on individuals or institutions. During this week my telephone has been rung time and time again, not only by newspapers, but by doctors, and the question has been asked, why was not a certain group of men up at Lake Mohonk. I had the pleasure of answering them, and fully explaining why these persons were not at Mohonk. The reasons were excellent."

"The great note struck at the Mohonk symposium," declared Dr. Welch, "was the tremendous importance of the cancer question and the appalling problems which it presents. There was never a time when tuberculosis presented problems of such magnitude. The general public and the medical profession must be aroused to the vital importance of efforts to control cancer. However inadequate our knowledge is today, it is an obligation of the profession to the general community that every effort be made to control this scourge. The community must be taught that all types of cancer are not certainly and inevitably fatal if they are recognized and properly treated at an early stage. Emphasis was placed upon the importance of research work, the need of further additions to our knowledge on the one hand, and equally, upon the necessity of applying our existing information for the saving of human lives and suffering. There is no disease to which larger additions have been made to our knowledge than cancer, but because this knowledge does not reach the public which we are most anxious to reach, this seems trivial. The many papers and discussions will be published, and make a volume which will be an epochal contribution to our knowledge of cancer."

(Concluded on page 288)

The Medical Times

A MONTHLY JOURNAL
OF
Medicine, Surgery and the Collateral Sciences
ESTABLISHED IN 1872

EDITED BY
H. SHERIDAN BAKETEL, A.M., M.D., F.A.C.P.
ARTHUR C. JACOBSON, M.D.
Associate Editor

Contributions.—EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this publication.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES
(STRICTLY IN ADVANCE)

UNITED STATES (Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)	$3.00 per year
CANADA	$3.25 per year
FOREIGN COUNTRIES IN POSTAL UNION	$3.50 per year

SINGLE COPIES, 25 CENTS

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded.

Notify publisher promptly of change of address or if paper is not received regularly.

Remittances for subscriptions will not be acknowledged, but dating on the wrapper will be changed on the first issue possible after receipt of same.

All communications should be addressed to and all checks made payable to the publishers.

MEDICAL TIMES CO.
ROMAINE PIERSON, *President*
H. SHERIDAN BAKETEL, *Treasurer*
GEORGE B. CREVELING, *Secretary*

95 Nassau Street - - - New York
Cable Address: Ropierson, New York

NEW YORK, NOVEMBER, 1926

Colloidal Lead and Cancer

Blair Bell's pioneer work in Liverpool with colloidal lead promises well in the inoperable cases of carcinoma. His results in what are commonly regarded as hopeless patients have been decidedly striking, and authorities as conservative as Francis Carter Wood have been impressed by them.

It is interesting to note that Bell has done his work under discouraging conditions. His facilities have been only such as an English nursing home could offer. His success is another example of genius triumphant where highly endowed and marble-walled research institutes have failed.

This work appears to have been founded on the fact that pregnant women employed in lead works are very likely to abort, due to changes in the chorionic villi. Histologic analogies between the chorionic villi and cancer cells lead Bell to try the effects of lead on the latter. He found that an elective affinity existed and that the lead produced necrosis of the malignant tissues.

When our cells become completely engrossed in their vegetative life, so to speak, and forget about their higher duties in the organism, lawless growth ensues. In proper dosage, colloidal lead puts a quietus upon these delinquent citizens of the physiological State.

Colloidal lead is patented, like insulin, and only about twenty men in the United States have been privileged to employ it in hopeless cases only. The restriction is due to the fact that its use in operable cases would be unjustifiable at present, on account of the not infrequent lethal effects of the remedy.

"Boosting the Doctor"

One might think that the medical profession needs no boosting, but students of the times realize that because of the blatant claims of cultists and quacks, medical men are not occupying the position they should in the minds of the people of today.

The laity know far too little of the self-sacrificing life of physicians. Careful thinkers, within the profession, realize that unless some steps are taken to combat the propaganda which is being promulgated by parasitical, deleterious forces, which cling like barnacles to the ship of medicine, the profession itself is bound to suffer loss of prestige, as well as undergo a period of economic depression.

The profession has been waiting for its leaders to "start something," but nothing has been started. Therefore, the pharmaceutical manufacturing house of Reed & Carnrick, of Jersey City, N. J., which has been submitting its glandular products to the medical profession for more than 60 years, has taken the lead by sending out to over 7,000 daily and weekly newspapers of the country a series of editorials and newspaper stories, each one of which tends to "boost the doctor." These articles are very largely taken from the R & C *Medical Pocket Quarterly*. They have no semblance of advertising, but are purely for the purpose of showing readers of the daily and weekly press exactly what the doctors of today are doing, and how they are sacrificing time, effort and money to give the people service.

It is the hope of the promoters of this campaign that the physicians will see the value thereof, and will themselves continue such a program, and that they will go further and advertise by groups, or societies, in the public press.

Naturally lay editors are not keen about giving publicity to the medical profession when the doctors boldly proclaim that ethics forbid them to advertise.

We recall that a little over a year ago the Tulsa *World* published a series of advertisements which were paid for by the medical profession of Tulsa, which clarified the situation in Oklahoma to a tremendous extent, and the members of the medical profession of that commonwealth were greatly benefited. Incidently, the people themselves acquired a far different idea of the work of the physician by means of that campaign.

Later on, Reed & Carnrick prepared, for free distribution, a series of advertisements along similar lines, and these were published at the expense of groups of physicians in several hundred newspapers of the country to th great benefit of all concerned.

Now this enterprising laboratory offers to supply physicians with a series of advertisements for use in the lay press, so that the advantage of all this publicity may not be lost.

This campaign should have been inaugurated by medical men. The explanation that the laboratory which took up this subject did so because it is officered by physicians, does not excuse the rank and file of the profession from their negligence. If physicians are to maintain a high position in the estimation of the general public they must bestir themselves and not leave it to business houses to start a plan like this, and then be compelled to carry it through.

N. B. Officers of medical societies take notice.

Freedom and Morals

There is an interesting passage in Bradford's History of Plymouth which unwittingly furnishes a sermon against the evils of Puritanic suppression.

Restrictions against what were regarded as moral

lapses were, of course, very severe in the New England settlement. Sexual relations of an "illicit" kind were rigidly policed. But with what result?

Bradford found that the Colony was plagued with homosexualism. Men could consort with men, or women with women, without arousing the same scandal, from the common Puritan point of view, as would be the case where the opposite sexes made suspicious contact. Therefore there arose a super-scandal, in the end.

It is always so where curtailment of human freedom reaches a fanatical point.

Probably most of our socio-sexual pathology to-day is quite definitely related to false moral standards masquerading as clean and beneficent laws and customs.

Sickness and Public Affairs

On the one hand we find Sir Bruce Bruce-Porter affirming that our labor troubles are due to the ill health of strike leaders and agitators, while on the other hand we find Graham Wallas insisting that all the men who rule the world are sick.

The British doctor thinks that the grievances and actions of the strike leader are the outgrowth of a life begun in unpropitious surroundings, carried on hazardously and precariously, and at all points improperly cared for. There is a palpable fallacy in all this, since many labor leaders are of exceptionally good physical and mental make-up, while the employer class undoubtedly furnishes as many examples of pathology as do the agitators. We have no figures on the subject at hand, and as far as his remarks reveal neither has the British critic. So it is opinion against opinion.

Graham Wallas says that the peace treaty and much of past history has been the work of men suffering from nervous diseases. He reminds us that President Wilson was struck down by nervous disease six months after the treaty was signed and declares that he was in a pathological condition during the Paris conference. He says that Lord Northcliffe, "who then had England largely in his hands," also died of nervous disease. He asserts that though Clemenceau is still alive he suffers from fixed ideas, which is a nervous malady. And he mentions Lenine as having died of nervous disease too. Of course, the answer to all this is that the men in question did very well by their fellow countrymen, and that if that is what nervous disease does to our public men we hope that more of them will be afflicted. Which recalls Lincoln's comment when complaints were made against General Grant on the score of his alcoholism: "Find out what brand he drinks and I will send some to our other generals."

Only the British are thought to muddle along. As a matter of fact, all people do. We are governed by the sick and the well, and it is well to remember that the well are not always our most capable administrators, nor the sick our worst ones—using the terms sick and well in a relative sense. It is an eternal paradox that the well man may be a sick man and the sick man may be a well one—spiritually speaking. Any reader may supply his own examples.

So the frail Gandhi leads a nation in spirit, and leads it well.

What, we wonder, was the state of health of the men who gave us the eighteenth amendment and its enabling act? Were they sick men or well men?

A Sleepless Society

At the recent meetitng of the American Chemical Society, Irenee du Pont, Vice Chairman of the Board of E. I. du Pont de Nemours and Company, advocated chemical research looking to the finding of a chemical substitute, or antidote, or catalyst, for sleep—something which, taken or injected, would render sleep unnecessary.

Such a synthetic, he figured, would add greatly to the hours of production and leisure (especially production!) It would greatly decrease the cost of housing and the cost of factory production (especially the cost of factory production! We really wouldn't need homes at all and all transit problems would be solved. We could all eat outside the home and the old necessity for sleep would not draw us there.

Fine, but we greatly fear that Mr. du Pon't dream of a decrease in the capital cost per unit of production in factories *which under such a dispensation would operate on a 24-hour schedule* is doomed to disappointment.

That is the fearsome way in which the mind of one manufacturer works. On the other hand witness Henry Ford inaugurating the five-day week.

Under which system would the worker be happier and healthier?

Under which system Mr. du Pont would be more content and wealthier seems obvious enough.

Food-Handler Examinations

The Department of Health of the City of New York will not henceforth accept certificates from practitioners pertaining to the health of food-handlers. No one has quarreled with the Department, so far as we know, regarding its right to examine food-handlers, but when it insists that this be made an exclusive right we do not quite trust our ears. One could quite readily set up a number of supposititious cases other than those of food-handlers in which a similar principle would be at stake, and in which at the present time no one dreams of a change of procedure. If it is so important to take over the certification of food-handlers, most of whom are not actually ill, why is it not more important to deprive the medical profession at large of its right to diagnose and treat those suffering from infectious diseases in general? Have we any essential rights at all in the field of the infections? If our certification that a food-handler is infected or well is meaningless to the authorities of our community, then the assumption of our incompetence raises an issue upon which all concerned must go to the mat. The trial of such an issue cannot be evaded, and whoever loses out should forfeit much of prestige and power. It would be in order for us, if defeated, to be barred from practice. Such a conclusion to the coming contest would be an unimaginable *reductio ad absurdum*. The Department might just as well rescind its action before battle.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M.D.

The Ex-Baby

"The good work already done has probably been reflected in improved conditions of children who are not subject to supervision, but we cannot let this probability satisfy us, and the hiatus between babyhood and school age must be bridged. Dame Janet Campbell's use of the phrase 'ex-baby' is justified by the absence of a current word to specify the infant who is no longer 'the baby' and has not yet attained the status of a school child. Yet during this period are being laid the foundations of the individual's character and disposition, upon which will

depend his actions and reactions, and, to a great extent, his future happiness and even bodily health. An eminent theologian is credited with declaring that if he could direct the training of a child up to the age of seven, he cared not a bit who trained it afterwards.

"Modern study of the development of character traits, however, leads us to attach more importance to the influence of the family, often unwittingly exercised, than to deliberate efforts to instruct. From these observations it is only a step to the view of Freud that, whatever may be its exciting cause, the foundations of a psycho-neurosis are laid in the first five years of life. Inborn temperament plays a part, but those neurotic reactions in the nature of fear, jealousy, hatred, and the like, which appear so irrational to the observer and yet are subjectively self-sufficient, are but repetitions of childish emotional behavior.

"We are so accustomed to our loss of memory for the period when our own reaction modes were being laid down that we overlook the mystery of it. We say we were too young to remember. But any mother can give examples of the wonderful memory of her ex-baby, and the conclusion seems reasonable that we forget because we are too old to remember. According to the psychoanalytic view we forget, or repress, because the period is a time of conflict between primitive wishes and the growing inhibitions against them. Certainly the child who has 'his nose put out of joint' by the coming of a 'little stranger' will probably never know if a feeling of neglect then experienced was the first of a train of reactions culminating in a general tendency to undue resentment at any rebuff. The only child—who is often a nervous child—may never pass satisfactorily through the stage of dependence upon the parents, and the success of Barrie's best-known play may indicate that the memory of that stage of dependence still attracts both grown-ups and those who have not long passed through the ex-baby phase. Few of us would easily admit that the happenings of that phase had any influence upon our appreciation of Peter Pan. Preventive medicine has a task before it in the 'plague of nerves' that interferes with the happiness and efficiency of so many people.

"If the ex-baby age is that in which are established not only character and disposition, but also the possibilities of later neurotic troubles, then the emotional situation of the child must be studied in conjunction with the purely physical side."

—*The Lancet* (London).

A physiologist says man's body contains chemicals valued at ninety-eight cents. And the gross total isn't raised any when he adds chemicals valued at, say, ten dollars a quart.

—*Little Rock Arkansas Gazette.*

Not the Cradle of Volsteadism

In his paper on "Colonial History Debunked," in the December *Harper's*, Harold U. Faulkner assails the legend of the tyrannically Puritanic New England. We quote from his conclusion:

"The possibility of a society ruled by its most intelligent citizens is so far removed from the degenerate democracies of our own time that it is quite beyond our powers of comprehension.

"Those of us who have dallied in the tap rooms or before the fireplaces of the cosy colonial taverns, or have stood in amazement at the sure and often rich art of New England Georgian as displayed in the Royal Mansion at Medford or the Lee Mansion at Marblehead, cannot help but feel that at least eighteenth century New England could not have been such a hopeless place in which to abide.

"If some of the evils under which we suffer are, as is contended, the result of Puritanism, it was the Puritanism of those who moved out.

"Certainly New England has been as much as any part of our country the home of that religious, political and personal liberty which is fast vanishing."

Certainly colonial New England never produced an era of Volsteadism. Nor would have voted for one.

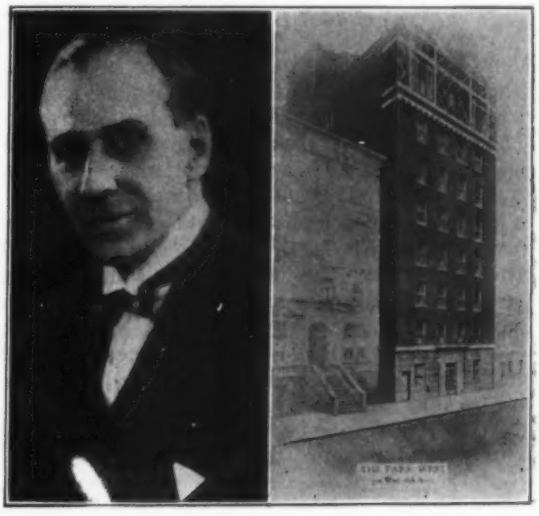
—*Evening World.*

Dr. Harold Hays Opens $750,000 Private Institution in New York

New York City's newest private hospital—the Park West at 170 West 76th Street—which represents an investment of nearly three quarters of a million dollars has just been formally opened. On September 26 the stockholders and professional men tendered a testimonial dinner to Dr. Harold Hays, president of the institution and a member of the editorial board of THE MEDICAL TIMES.

The hospital is compleely equipped and staffed. Many of New York's leading surgeons have pronounced it one of the finest institutions in New York.

The building is of modern fire proof construction and will accommodate seventy-two patients. There are no wards or dormitories, but a few semi-private rooms are included. Every effort has been made to do away with the institutional atmosphere. There is a radio and telephone in every room. Each room is directly connected with a bath and lavatory and in instances where rooms adjoin double sound proof doors have been provided.



Dr. Harold Hays The Park West

Two major operating rooms have been provided. These flank a completely equipped sterilizing room. There is also a special chamber for the administration of anesthetics. One of the features of the new institution which has won much favor is an entire floor especially equipped and devoted entirely to obstetrics. This floor is really a hospital within a hospital. The rooms are sumptuously furnished. The labor and delivery rooms are so located that they are completely isolated and the entire layout of the floor conforms with a plan to afford the utmost privacy. There is also a model nursery which is notable for the completeness of its modern equipment.

Carrying out the standard of modernness every floor is provided with its own utility room which renders each floor entirely independent of the others in the emergency and the routine treatment of the patients.

The kitchens are the most modern and the largest ever built for a hospital.

The general kitchen occupies the major portion of the basement and is augmented by a special diet kitchen where the wants of patients requiring individual diets will be cared for. Each of the eight floors of the building have miniature diet kitchens which will provide prompt service during the night and in all emergencies. The hospital also has its own ice plant and an independent power plant.

The general reception rooms, a reception room for patients, another for physicians and the dining rooms for nurses and the members of the staff, administration offices occupy the main floor.

The entire eighth floor has been devoted to solarium, which in point of furnishings is in keeping with the richness that marks the entire building. There are individual chaise lounges, luxurious wicker chairs and an exceptionally fine radio. The solarium, naturally is glass enclosed and a wreath of palms and flowering plants create the atmosphere of a conservatory rather than the usual severe interior so often encountered. A detailed description of the entire institution is hardly possible. A chlorine gas room for the treatment of colds, an Alpine Lamp, a separate *x*-ray room and other adjuncts vital in the practice of modern medicine have of course been provided.

Dr. Hays who will actively conduct the institution, was formerly assistant surgeon in the New York Eye and Ear Infirmary, and Adjunct Professor of Laryngology at the New York Polyclinic.

He was Major in the Medical Corps in the front line with the British Army, and later with the A. E. F. and is now Lieutenant Colonel in the Medical Reserve Corps.

The Glands of Internal Secretion

(Concluded from page 274)

Goitre is often noticed to develop at puberty, particularly when the menstrual periods have become irregular. In many young girls a distinct swelling of the thyroid gland may be noticed at the recurrence of each menstrual period; this gland exercising an important influence over the growth and development of the sexual organs.

In cases in which in consequence of morbid conditions of the uterus, the ovaries, or the organis, as a whole, the menstrual flow has been exceedingly scantly, hemorrhages from other organs have since ancient times been witnessed, and these hemorrhages have been regarded as vicarious menstruation. In the opinion of Kisch, the existence of a true vicarious menstruation is to be regarded as fully established, while other authorities doubt whether such extraordinary phenomena can be substantiated to the satisfaction of the careful investigator.

BIBLIOGRAPHY

Dr. Scott, J. F. ("The Sexual Instinct").
Dr. Magian, A. C. ("Sex Problems in Women")
Dr. Bell, W. Blair ("The Sex Complex").
Dr. Hirschfeld ("Neurologisches Zentralblatt," 1916).
Dr. Lipschutz ("The Internal Secretions of the Sex Glands").
Dr. Bohm ("Med. Inaug. Diss., Heidelberg, 1919").
Dr. Carus, quoted by H. Moll: ("The Sexual Life of the Child," 1913).
Dr. Reuben and Manning ("Arch. Pediat.," 1922)
Dr. Placzek ("The Sexual Life of Man," 1923).
Dr. Gibbs, Charles E. ("Arch. of Neurol. and Phsyciatry," Jan., 1923).
Dr. Bell, W. Blair ("The Principles of Gynecology," 1920).
Dr. Hunt, H. Lyons ("New Theory of the Function of the Prostate Deduced from Gland Transplantation in Physicians," Endocrinology, Vol. IX, No. 6, pages 479-489, 1925).
Dr. Hunt, H. Lyons ("Experiences in Testicle Transplantation," Endocrinology, Sept., 1922, Vol. VI, pages 652-656).
Dr. Hunt, H. Lyons ("Gland Transplantation," Am. Journal of Clinical Medicine, Vol. 30, No. 12, pages 862-866).
Dr. Hunt, H. Lyons ("Further Experiences in Gland Transplantation," N. Y. State Journal of Medicine, December, 1925).
Dr. Hunt, H. Lyons ("The Physiology of the Glands," *Medical Times*, Oct., 1926).

Mohonk Cancer Symposium

(Concluded from page 284)

The facts and opinions agreed to by the International Meeting follow: Although the present state of knowledge of cancer is not sufficient to permit of the formulation of such procedures for the suppression of this malady as have been successfully employed for the control of infectious diseases, there is enough well established fact and sound working opinion concerning the prevention, diagnosis and treatment of cancer to save many lives, if this information is carried properly into effect.

1. The causation of cancer is not completely understood, but it may be accepted that for all practical purposes cancer is not to be looked upon as contagious or infectious.

2. Cancer itself is not hereditary, although a certain predisposition or susceptibility to cancer is apparently transmissible through inheritance. This does not signify that, because one's parent or parents or other members of the family have suffered from cancer, cancer will necessarily appear in other persons of the same or succeeding generation.

3. The control of cancer, so far as this subject can be understood at the present time, depends upon the employment of measures of personal hygiene and certain preventive and curative measures, the success of which depends upon the intelligent cooperation of the patient and physician.

4. Persons who have cancer must apply to competent physicians at a sufficiently early stage in the disease, in order to have a fair chance of cure. This applies to all forms of cancer. In some forms early treatment affords the only possibility of cure.

5. Cancer in some parts of the body can be discovered in a very early stage, and if these cases are treated properly the prospect for a permanent cure is good.

6. The cure of cancer depends upon discovering the growth before it has done irreparable injury to a vital part of the body and before it has spread to other parts. Therefore, efforts should be made to improve the methods of diagnosis in these various locations and the treatment of the cancers so discovered.

7. The public must be taught the earliest danger signals of cancer which can be recognized by persons without a special knowledge of the subject, and induced to seek competent medical attention when any of these indications are believed to be present.

8. Practitioners of medicine must keep abreast of the latest advances in the knowledge of cancer in order to diagnose as many as possible of the cases of cancer which come to them.

9. Surgeons and radiologists must make constant progress in the refined methods of technic which are necessary for the diagnosis and proper treatment not only of ordinary cases but of the more obscure and difficult ones.

10. There is much that medical men can do in the prevention of cancer, in the detection of early cases, in the referring of patients to institutions and physicians who can make the proper diagnosis and apply proper treatment, when the physicians themselves are unable to accomplish these results. The more efficient the family doctor is, the more readily he is to share responsibility with a specialist.

11. Dentists can help in the control of cancer by informing themselves about the advances in the knowledge of the causes of cancer, especially with relation to the irritations produced by imperfect teeth and improperly fitting dental plates. They can also help by referring cases of cancer which they discover to physicians skilled in the treatment of cancer in this location. It may be doubted whether all dentists fully realize the help which can be obtained from x-ray photographs in revealing not only the state of the teeth but the condition of the bone surrounding them.

12. Medical students should be instructed in cancer by the aid of actual demonstrations of cancer patients, and this to a sufficient extent to give them a good working knowledge of the subject.

13. The most reliable forms of treatment, and, in fact, the only ones thus far justified by experience and observation, depend upon surgery, radium and x-rays.

14. Emphasis should be placed upon the value of the dissemination of the definite, useful ad practical knowledge about cancer, and this knowledge should not be confused nor hidden by what is merely theoretical and experimental.

15. Efforts toward the control of cancer should be made in two principal directions: (1) the promotion of research in order to increase the existing knowledge of the subject, and (2) the practical employment of the information which is at hand. Even with our present knowledge many lives could be saved which are sacrificed by unnecessary delay.